AN 16-30ARW26-7

HANDBOOK
MAINTENANCE INSTRUCTIONS

RADIO RECEIVING SET AN/ARW-26(XA-2)Y

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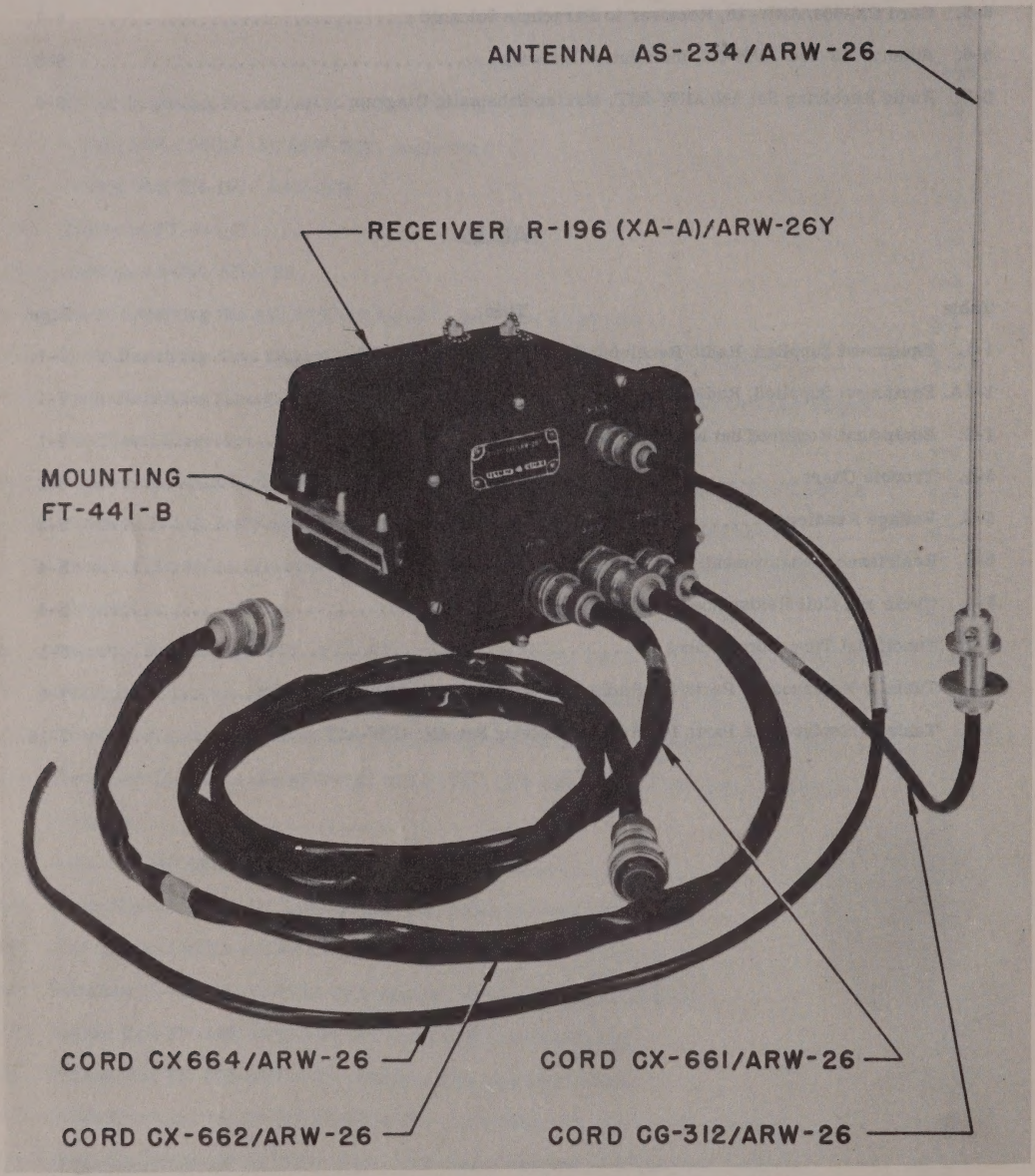


Figure 1-1. Radio Receiving Set AN/ARW-26(XA-2)Y, Major Units

SECTION I

GENERAL DESCRIPTION

1. PURPOSE OF HANDBOOK.

This handbook describes the installation, operation, adjustment and maintenance of Radio Receiving Sets AN/ARW-26(XA-2)Y and AN/ARW-26Y.

2. PURPOSE OF EQUIPMENT. (See figure 1-1.)

The purpose of Radio Receiving Sets AN/ARW-26(XA-2)Y and AN/ARW-26Y is to form one end of radio remote-control system. In conjunction with associated equipment, it directs the operation of the aircraft in which it is installed. When tuned to any frequency within its range of 60 to 74 megacycles, the receiver accepts a carrier modulated at 300, 650, 955, 1390, and 3000 cycles. This equipment may be controlled beyond the operator's eyesight, but it will not give satisfactory service. It is designed for operation only in the visual range of the operator. Radio Receiver R-196(XA-A)/ARW-26Y is a part of Radio Receiving Set AN/ARW-26(XA-2)Y. Radio Receiver R-196/ARW-26Y which is a modified R-196(XA-A)/ARW-26, performs the same functions and is a part of Radio Receiving Set AN/ARW-26Y. Unless specifically noted, all other information and illustrations in this handbook may be regarded as applicable to both receiver models.

3. POWER SUPPLY EQUIPMENT.

The power requirement of this equipment is 0.75 ampere at 28 vdc. Power required by R-196(XA-A)/ARW-26Y or R-196/ARW-26Y, the servo unit, and the parachute solenoid, is furnished by batteries contained in a battery box which is part of the aircraft. Detailed electrical characteristics are given in section VI.

4. EQUIPMENT SUPPLIED.

Table 1-1 lists the equipment supplied by the manufacturer of Radio Receiving Set AN/ARW-26(XA-2)Y. Table 1-1A lists the equipment supplied by the manufacturer of Radio Receiving Set AN/ARW-26Y. The tables list the quantity of each item per equipment, the Army-Navy Type designations, overall dimensions, weight and numerical reference series.

TABLE 1-1. EQUIPMENT SUPPLIED

Quantity per Equipment	Name of Unit	Army-Navy Type Designation	Maximum Overall Dimension (inches)			Maximum Weight (In pounds)	Numerical Series of Reference Symbols
			Depth	Width	Height		
1	Radio Receiver Selector Including:	R-196(XA-A) /ARW-26Y	7-5/8	8-5/16	5-11/16	5.6	101-199
1	Tuning Unit	TN-109/ ARW26A	2-3/4	2-1/4	4	0.4	
2	Mounting	FT-441-B	4-7/8	5/8	1-1/2	0.1 (each)	
1	Antenna Assembly	AS-234/ ARW-26	1/4 dia		12-5/8	0.1	201-299

TABLE 1-1A. EQUIPMENT SUPPLIED

1	Radio Receiver Selector Including:	R-196 ARW-26Y	7-5/8	8-5/16	5-11/16	5.6	101-199
1	Tuning Unit	TU-55	2-3/4	2-1/4	4	0.4	
2	Mounting	FT-441-B	4-7/8	5/8	1-1/2	0.1 (each)	201-299

5. EQUIPMENT REQUIRED BUT NOT SUPPLIED.

Table 1-2 lists equipment not supplied but required for operation of Radio Receiving Set AN/ARW-26(XA-2)Y. The table gives quantity of each item per equipment, Army-Navy type designation and required characteristics.

TABLE 1-2. EQUIPMENT REQUIRED BUT NOT SUPPLIED

Quantity per Equipment	Name of Unit	Army-Navy Type Designation	Required Characteristics
1	RF Cord	CG-312/ARW-26 (15 in.)	Single conductor, No. 18 wire
1	Power Cord	CX-661/ARW-26 (60 in.)	Six conductor, No. 18 wire

TABLE 1-2. EQUIPMENT REQUIRED BUT NOT SUPPLIED (CONTINUED).

Quantity per Equipment	Name of Unit	Army-Navy Type Designation	Required Characteristics
1	Power Cord	CX-662/ARW-26 (36 in.)	Seven conductor, No. 18 wire
1	Power Cord	CX-664/ARW-26 (36 in.)	Conduit and plug assembly only. The two conductors are attached to the parachute solenoid.
1	Transmitter	RC-56-A	Used at low power for testing.
1	Headset	HS-23 or HS-33	HS-23 is high impedance; HS-33 is low impedance
1	Headset Adapter	MC-385-A	Used only with low impedance headset
1	Test Set	TS-257/ARW	

6. DESCRIPTION OF MAJOR UNITS.

a. Receiver Selector R-196(XA-A)/ARW-26Y, shown in figure 1-2, is housed in a rectangular aluminum case. Brackets with snap-slide fasteners are attached to either side of the case for attaching the unit to mountings. Four receptacles are located on the front panel for connecting the cables to the antenna, the parachute solenoid, the servo unit, and the battery box. Caps on top of the cabinet cover the holes that mate with corresponding holes in the top of the tuning unit. (See figure 6-3.) The main chassis mounts side arms, which in turn are attached to the front panel. (See figures 6-3 and 6-4.) Access to the chassis is obtained by removing eight screws on the front panel. The case is equipped with a sealing gasket so that when the cover is in place and securely tightened, the entire unit is hermetically sealed. The housing containing the electronic equipment incorporates a silica-gel cartridge for dehydration. It is hermetically sealed, and unless the seal is broken or the front panel removed, the quantity of

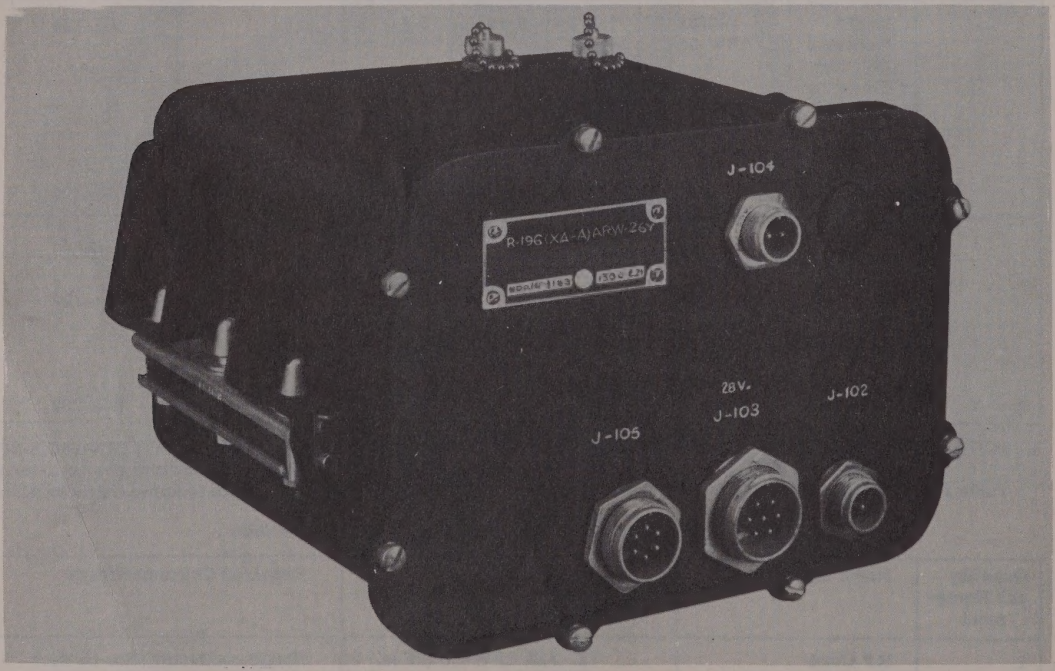


Figure 1-2. Receiver R-196(XA-A)/ARW-26Y, Angle View

silica-gel is sufficient for one year. The equipment has been tropicalized and will operate under all conditions of humidity.

(1) Electrical connection is made to Tuning Unit TN-109/ARW-26A by means of a seven-contact socket located on the bottom. All units are factory tuned to 73 megacycles. The receiving frequency may be set within the range of 60 to 74 megacycles, by adjusting the aligning screws located on the top of the unit. (See figures 1-3, 6-5, and 6-6.)

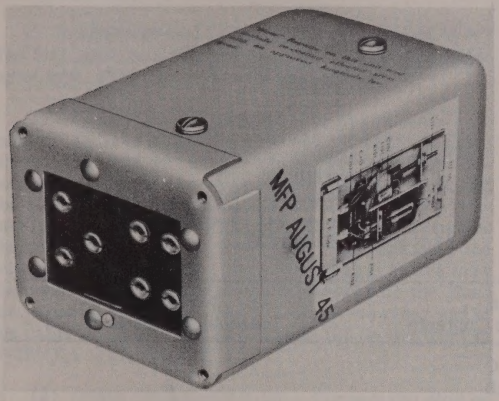


Figure 1-3. Tuning Unit TN-109/ARW-26A

(2) The steel body of mounting FT-441-B includes a phosphor-bronze pressure spring, a tinned-copper-braid ground strap, and three shockmount assemblies. The mounting engages the bracket on the side of the receiver being held in place by the snap-slide fastener at the front of bracket. (See figure 1-4.)

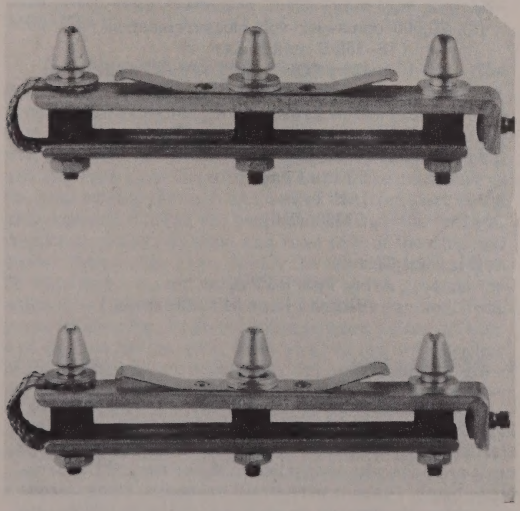


Figure 1-4. Mounting FT-441-B

b. Antenna AS-234/ARW-26 consists of the following: An 11-inch, tapered, aluminum-alloy whip antenna, an aluminum-alloy mounting socket, a 1/2-inch elastic stop nut, a washer to fasten the socket in place, a 1/4-inch set-screw to hold the antenna in its socket, and a gland nut with packing sleeve to hold the cable conduit. (See figure 1-5.)

c. The battery box is a part of the aircraft. A phone jack for monitoring the receiver is located on the front of the battery box and is connected to the receiver through the cable which inter-connects battery box and receiver.

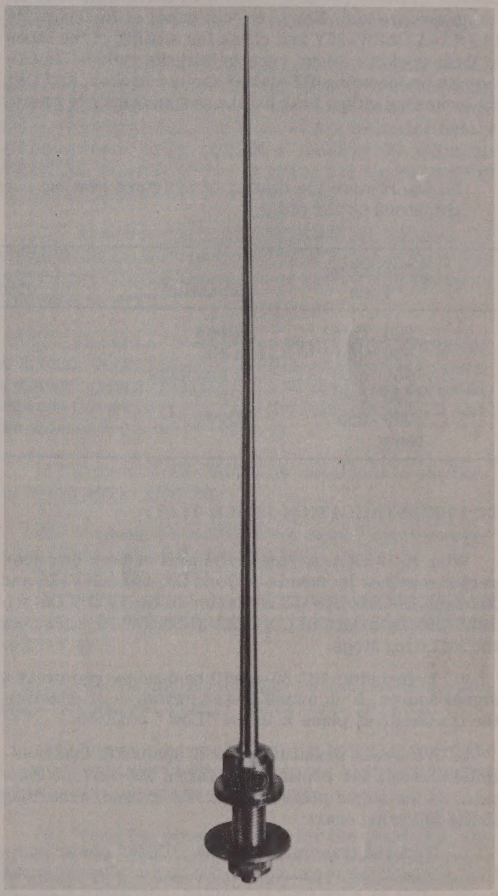


Figure 1-5. Antenna AS-234/ARW-26

7. QUANTITY AND TYPES OF TUBES.

Radio Receiving Set AN/ARW-26(XA-2)Y uses the following tubes in the quantity indicated.

JAN-9003	1
JAN-9002	1
JAN-6AK6	7

SECTION II

INSTALLATION AND ADJUSTMENT

1. UNPACKING AND INSPECTING THE EQUIPMENT.

Use care in unpacking the equipment so that it is not damaged. Give the equipment a visual check to make certain that everything is in good order. Check against the list in table 1-1 of section I, to determine that all items are present. Remove front panel of Receiver R-196(XA-A)/ARW-26Y and check for seating of the tubes in their sockets. Make certain that the rubber shockmounts on Mounting FT-441-B are not broken, and that the grounding straps bridging the shockmounts are intact.

Note

Do not remove the coating of moisture sealing compound on the plugs.

2. PREINSTALLATION BENCH TEST.

With R-196(XA-A)/ARW-26Y and battery box connected together by means of Cord DX-662/ARW-26 and Antenna AS-234/ARW-26 connected to the R-196(XA-A)/ARW-26Y by means of Cord CG-312/ARW-26, carry out the following steps.

a. Transmitter RC-56-A will be used to operate as a signal source. If an output power switch is provided on the transmitter, place it in the "Low" position.

b. When each modulating tone is applied to the transmitter, check for continuity between the various contacts on the output plugs and chassis ground, according to the following chart:

Modulating Tone	Function	6-Pin Receptacle Contacts	2-Pin Receptacle Contacts
300 cps	Right	C	B
650 cps	Left	B	B
955 cps	Parachute	A	B
1390 cps	Up	A, D	B
3000 cps	Down	A, E	B
None		A	None

c. With the transmitter in the "HIGH" power position, recheck the terminals on the output plugs to make certain that as each tone is applied, continuity does not appear on any terminal other than those listed for that tone

d. Remove the plug from the battery-box receptacle, but leave the batteries installed in the box.

3. TEST EQUIPMENT REQUIRED.

(a) RF Signal Generator
TS-437/U, or
General Radio 804-CS2 } Alternates
Measurements Corp. 80 }

(b) Audio Signal Generator
TS-382A/U, or
Hewlett-Packard 200-C } Alternates
Hewlett-Packard 205-AC }

(c) Test Set
TS-257/ARW

(d) Oscilloscope
TS-239/UP
TS-34/AP }
Dumont 241 } Alternates
Triumph 830 }

(e) 1,000-ohms-per-volt measurements;
TS-297/U multimeter, or
Weston 663 } Alternates
Simpson 443 }

(f) 20,000-ohms-per-volt measurements;
TS-352/U multimeter, or
Navy "OE" }
Simpson 260 } Alternates
Weston 790 }

(g) Dummy Antenna
50 mmf capacitor,
JAN Type
CM20A510J

(h) Tube Tester
Army Type I-177A, or
Hickok 540 or 545 (Alternates)

4. INSTALLATION.

a. RADIO RECEIVER-SELECTOR R-196(XA-A)/ARW-26Y. (See figure 8-4.) - Mountings FT-441-B will be installed in the aircraft in the position which design of the craft provides with snap-slide fastener toward the parachute hatch. Place a wire braid grounding strap across one rubber shockmount on each side of the R-196(XA-A)/ARW-26Y. The grounding strap will be placed between

the channel member of the mounting and a washer at top and bottom of the shockmount. Place the receiver on the mounting FT-441-B and slide back until the snap slide fasteners may be engaged and the slotted studs tightened down on the receiver brackets. Nuts and washers in the small cloth bag are provided as spares.

b. ANTENNA. (See figure 8-6.) - To install Antenna AS-234/ARW-26 in the aircraft, remove the packing sleeve and gland nut and insert the threaded end of the antenna fitting into the hole provided. Secure with washer and elastic stop nut.

c. INTERCONNECTING CORDS. (See figure 8-3.) The four interconnecting cables are all of the moisture-proof type. They should be installed as follows:

(1) CORD CG-312/ARW-26. (See figure 8-6.) - To connect the lead to AS-234/ARW-26, slide the packing sleeve and gland nut (previously removed from the antenna) over the antenna cable conduit, make certain that the plug end is free to turn, and screw the antenna contact tip into the bottom end of the antenna fitting. Tighten the contact tip securely. Then slip the conduit over the tapered end of the fitting, slide the packing sleeve over the conduit, and lock the sleeve securely with the gland nut. Connect plug AN-3106-10SL-2S on the other end of the cable to its mating receptacle J-102 on the front of R-196(XA-A)/ARW-26Y.

(2) CORD CX-661/ARW-26. - Connect the plug on one end of this cable to the mating receptacle J-105 on the front of the receiver. Connect the other end to the receptacle on the servo unit. Both ends of the cord terminate in the same type plug, AN-3106-14S-6S.

(3) CORD CX-662/ARW-26. - Connect the plug on one end of this cable to the mating receptacle J-103 on the front of R-196(XA-A)/ARW-26Y. Do not connect the plug at the other end of the cable until the associated transmitter or other source of signal is operating. Both ends of the cable terminate in the same type plug AN-3106-16S-1S.

(4) CORD CX-664/ARW-26. (See figure 8-5.) - The parachute solenoid is supplied with two leads of the proper length extending from a neck on the solenoid. Insert these wires in the conduit of the cord as far as they will go. Remove the nut (see figure 8-5) from the plug and slip back over the conduit. Unscrew the rear part of the plug leaving the lugs attached to the front part of the plug exposed. Thread the two wires through the tubings, packings, gasket, washer, and rear part of the plug and solder them to the lugs. Solder the wire which carries 28 volts to pin A, and solder the wire which grounds the solenoid to pin B. Then reassemble the rear and front parts of the plug. Push the tubings down as far as they will go, and fill the shell flush with the end with Zophar Mills F-924 wax, or equivalent. The nut, packings, gasket, washer, conduit, and plug will then be reassembled in accordance with figure 8-5. Slip the other end of the conduit over the neck on the solenoid, and wrap the end of the conduit with cord so as to hold it in place on the neck. The whole area around the joint and wrappings will be covered with glyptal cement. Fasten the parachute solenoid in place, and attach plug AN-3106-10SL-4S to the mating receptacle J-104 on the receiver panel.

(5) GENERAL. - All four cords will be laced or otherwise fastened in position and they will not run over sharp edges. All plugs (except the one which mates with the receptacle on the battery box) will be screwed down tightly until they are fully sealed.

5. ADJUSTMENT. (See figure 2-1.)

a. The receiver is aligned at the factory for proper operation at 73 megacycles. No adjustment is required at installation unless the frequency is to be changed to another frequency within the range of 60.0 to 74.0 megacycles, in which case the following procedure applies.

(1) Remove the lid of the battery box and install batteries. Make certain that the battery fasteners are securely attached. If there is any doubt about the condition of the batteries, test them with a voltmeter before installing them. At the moment of receding the voltmeter indication, place a 35 ohm resistor across the battery terminals to simulate a normal load.

(2) Connect Cable CX-662/ARW-26 between the AN/ARW-26(XA-2)Y and battery box. Allow at least one-half minute for the tubes to heat before attempting to align the receiver.

(3) Connect a TS-437/U (or equal) signal generator to antenna receptacle of R-196(XA-A)/ARW-26Y, using a dummy antenna consisting of a 50 mmf mica capacitor between the positive output of the signal generator and the antenna input of the receiver.

(4) Connect a TS-382A/U (or equal) audio oscillator to the signal generator.

(5) Connect a TS-239/UP (or equal) oscilloscope to the phone jack of the battery box.

(6) Set the signal generator to the radio frequency at which it is desired to align the receiver, plus or minus 0.05 per cent.

(7) Set the audio oscillator to any one of the five audio frequencies, plus or minus three per cent.

(8) Remove the caps from the holes on top of the receiver cabinet which give access to the alignment holes in the top of the tuning unit.

(9) Tune the detector stage for the maximum amplitude of the audio signal as shown on the oscilloscope. To adjust to a lower frequency, turn the adjustment screw counterclockwise.

(10) Tune rf amplifier stage in the same way.

b. Test unit TS-257/ARW may be used for alignment of the receiver. An alternative to the method using the oscilloscope, as given above, is to tune for maximum response in headphones plugged into the phone jack on the battery box, using a weak modulated signal. This method is not as accurate as the method using the oscilloscope. Another alternative method which is very satisfactory but which involves removing the receiver

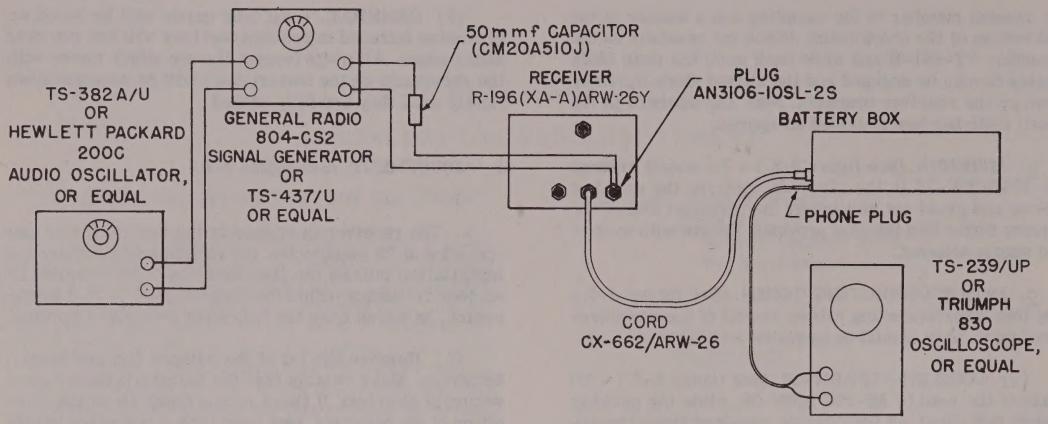


Figure 2-1. Radio Receiving Set AN/ARW-26(XA-2)Y, Setup for Alignment

from its cabinet, is to tune for maximum response on a d-c voltmeter connected across the relay coil corresponding to the modulating tone.

6. POSTINSTALLATION CHECKS.

a. With Radio Receiving Set AN/ARW-26(XA-2)Y installed, and with all plugs except the one connecting with the battery-box receptacle connected, turn on the associated transmitting equipment, leaving the control-box "stick" in the neutral (center) position.

CAUTION

Do not connect the battery-box plug until after the transmitting equipment has been turned on. Do not turn off the transmitting equipment or remove the signal in any way until after the power has been removed from the receiver. Failure to observe this warning will result in the opening of the parachute hatch release.

b. Insert the battery-box plug into its receptacle and allow at least 1/2 minute for the tubes to heat.

c. Operate the control box "stick" on the transmitting equipment under both "HIGH" and "LOW" power output conditions, and observe the craft for normal functioning.

d. Remove the plug from the battery-box receptacle if the equipment is not to be used immediately.

CAUTION

Failure to remove the plug from the battery-box receptacle, when the equipment is not to be used immediately, will run down the batteries.

SECTION III

OPERATION

1. FUNCTION.

This equipment is designed to receive r-f signals in a frequency range of 60 to 74 megacycles. Amplitude modulation of the carrier at any of five audio frequencies (300, 650, 955, 1390, or 3000 cycles) is detected and used to operate a series of relays, one corresponding to each frequency. Four of these relays control a servo unit which in turn controls the operation of the aircraft in which AN/ARW-26(XA-2)Y and servo unit are installed. The fifth relay controls a parachute solenoid.

2. STARTING THE EQUIPMENT.

To turn the equipment on, insert the seven-contact plug on the interconnecting cord into the receptacle on the battery box.

CAUTION

Do not leave AN/ARW-26(XA-2)Y turned on unnecessarily. It is powered by batteries which will be quickly exhausted if the equipment is left on when not in use.

CAUTION

Do not connect power to AN/ARW-26(XA-2)Y until after the transmitting equipment has been turned on. Do not turn off the transmitting equipment or remove the signal in any way until after power has been removed from the AN/ARW-26(XA-2)Y. Failure to observe this warning will result in the opening of the parachute hatch release.

3. OPERATING PROCEDURE.

After Radio Receiving Set AN/ARW-26(XA-2)Y has been turned on, it is under the control of the operator of the associated transmitting equipment. No further operating procedure is necessary.

4. STOPPING THE EQUIPMENT.

To stop the equipment, remove the seven-contact plug from the receptacle on the battery box.

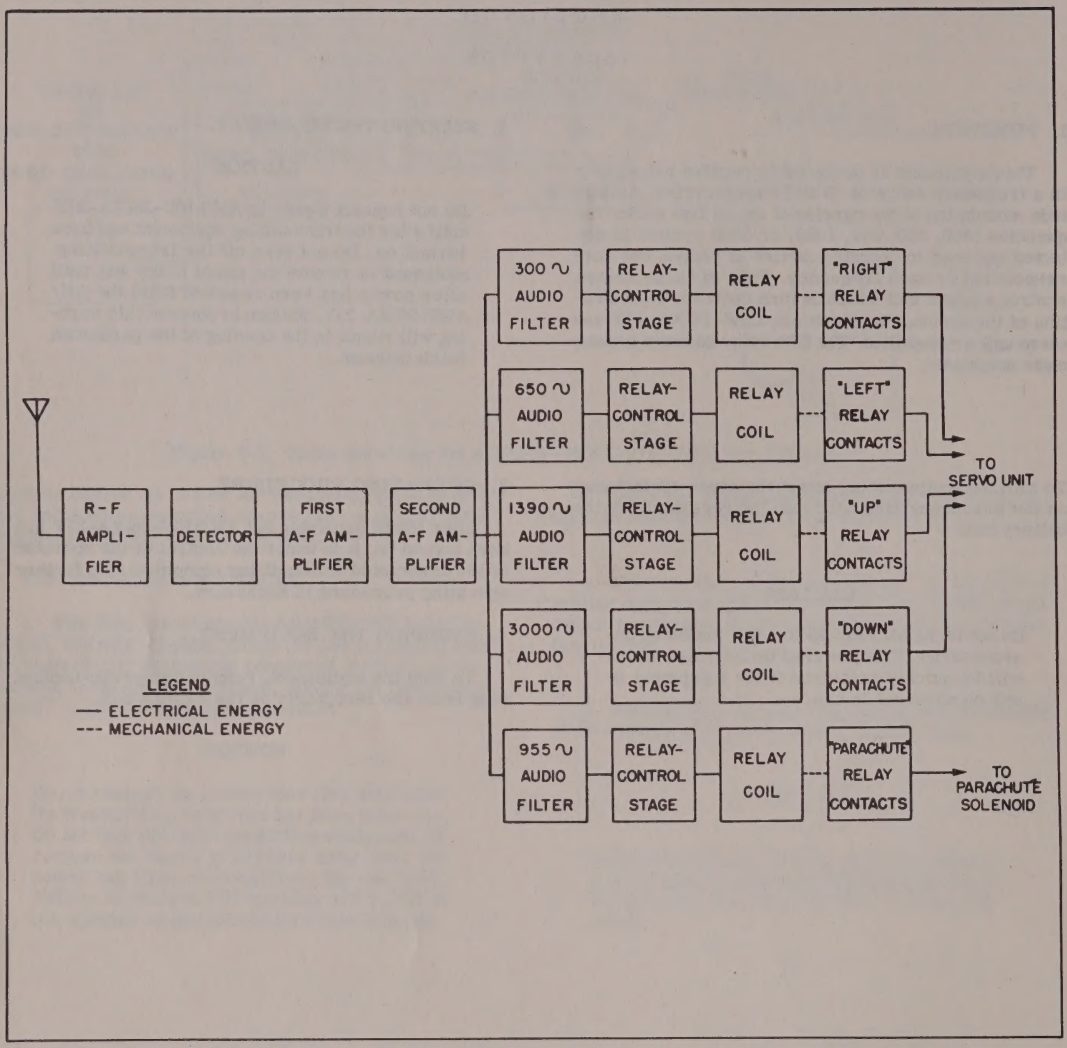


Figure 4-1. Radio Receiving Sets AN/ARW-26(XA-2)Y and AN/ARW-26Y, Block Diagram

SECTION IV

THEORY OF OPERATION

1. GENERAL.

a. PURPOSE OF EQUIPMENT. - This equipment is designed to receive r-f signals at any preset frequency within the range of 60 to 74 megacycles. Amplitude modulation of such signals results in an audio tone of 300, 650, 955, 1390 or 3000 cps. Each audio note operates a separate relay. The 955 cps relay energizes the parachute solenoid. Each of the other relays operates a particular control of the servo unit to which the receiver is attached. The servo in turn controls the movement of the craft in which it and the receiving equipment are installed.

b. BRIEF THEORY OF OPERATION. (See figure 4-1.)

(1) R-F CIRCUITS. - The signal is fed directly from the antenna to a tuned circuit coupled directly to the grid of the r-f amplifier tube. The r-f amplifier output is transformer coupled to the tuned circuit in the super-regenerative detector. These circuits are contained in the tuning unit.

(2) AUDIO CIRCUITS. - The rectified signal from the detector is amplified in two audio stages. The output of the second audio stage is fed to a bank of five separate band-pass audio filters. Each filter has been set to respond to a different one of the five audio frequencies. While the audio input to these five filters is common, the output of each of the filters is fed separately to the input of its own relay control tube. When a sufficiently strong signal is supplied to a given relay control tube to overcome a blocking bias, current flows through a relay coil in the plate circuit of the tube, energizing the coil and actuating the relay. When the relay closes it contacts, the circuit connected to it is closed, and the servo mechanism operates in the desired manner. Wiring of the system is such that the parachute relay contacts remain closed during normal operation. De-energizing this relay releases the parachute.

2. DETAILED FUNCTIONING.

a. RADIO-FREQUENCY AMPLIFIER STAGE. (See figure 4-2.)

(1) The signal from the antenna enters the receiver at receptacle J-102. This input is wired to contact 2 of plug J-101A in the receiver, and is passed to the corresponding contact of J-101B in the tuning unit.

(2) The input from the contact 2 is fed to a tap approximately one-tenth of the coil length from the ground end of r-f tuning coil L-101. By means of capacitor C-101(5), the coil is tuned approximately to the normal frequency of the tuning unit. The exact resonant frequency desired is obtained by adjustment of the r-f tuning core. The tank circuit, which consists of coil L-101 and capacitor C-101, causes an increase in the signal voltage applied to the grid of the r-f tube V-101. It also provides selectivity. A further increase in selectivity is obtained by feeding the grid of the r-f amplifier from a tap on coil L-101 approximately 15 percent of the coil length down from the live end. The connections for the r-f amplifier tube V-101, a JAN-9003, are conventional.

(3) The screen grid is connected to B+ through resistor R-102(24K) and by-passed to ground through capacitor C-103(500).

(4) Plate voltage for V-101 is obtained through

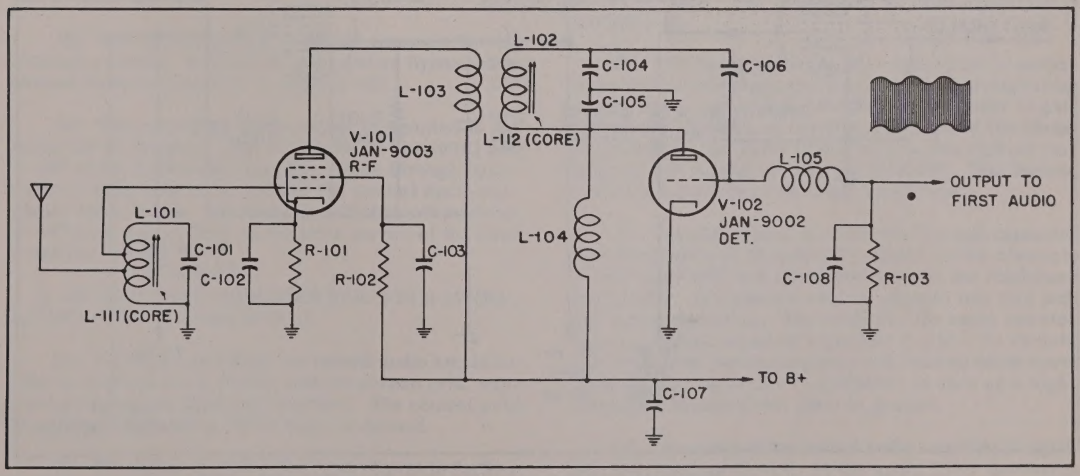


Figure 4-2. Radio Receiving Sets AN/ARW-26(XA-2)Y and AN/ARW-26Y, R-F and Detector Stages, Functional Diagram

primary coil L-103 of the interstage transformer. Coil L-103 is the load of the r-f amplifier and transfers the amplified signal by inductive coupling to detector tuning coil L-102.

b. DETECTOR STAGE. (See figure 4-2.)

(1) Tube V-102, a JAN-9002, is used as a self-quenched, super-regenerative detector. A shunt-fed Colpitts oscillator is used. The tuned circuit is made up of coil L-102 and capacitors C-104(5) and C-105(5). The tuning core adjusts this circuit to the exact frequency of the tuning unit.

(2) R-f signals are fed inductively into coil L-102 from coil L-103. Since one end of the tuned circuit is connected through capacitor C-106(50) to the grid of V-102, the signals are passed into this tube where they are amplified. The r-f output of the plate is passed into the other end of the tuned circuit. Since the input and output of the tube are 180 degrees out of phase, and the two ends of the coil are likewise 180 degrees out of phase, the grid and plate circuits become mutually self-sustaining. The r-f return to ground for the plate and grid circuits is the connection between C-104 and C-105, which serves as the center tap for the tuned circuit.

(3) Voltage for the plate circuit is obtained through L-104, an r-f choke which serves to confine all the r-f signals to the tuned circuit. Capacitor C-107(500) in conjunction with voltage dropping resistor R-104 acts as a plate voltage filter for both r-f stages V-101 and V-102. Note that the value of R-104 is 8200 ohms in R-196(XA-A)/ARW-26Y and 50,000 ohms is R-196/ARW-26Y. This gives a better filter effect and reduces re-radiation in R-196/ARW-26Y.

(4) The d-c return for the grid circuit is through r-f choke L-105 and a grid-leak and capacitor combination consisting of R-103(24K) and C-108(105). R-f choke L-105 serves to keep the r-f signals within the tuned circuit. The grid-leak resistor R-103 and capacitor C-108 combination is to develop a bias on the grid of V-102 which varies with the audio modulation. The varying voltage is the audio signal which is passed through contact 7 of J-101B and J-101A to the grid of the first audio amplifier stage, V-103. Capacitor C-106(50) blocks plate voltage from the grid.

(5) In a self-quenched super-regenerative circuit, the time constant of grid-leak and capacitors is too large to permit the grid bias to follow the r-f signal frequency. A "quench frequency", in this case 25,000 cycles, is set up which carries the detector circuit alternately into and out of oscillation, thus keeping it always near the point of maximum regeneration but preventing steady oscillation. Tremendous amplification results.

c. FIRST AUDIO AMPLIFIER STAGE. (See figures 4-3 and 4-4.)

(1) Through the process of grid blocking in the detector tube, a tremendous amount of quench voltage is developed which would normally accompany the detector signal output. This quench voltage must be removed to prevent overloading the amplifiers and filters. The audio component of the received signal appears only

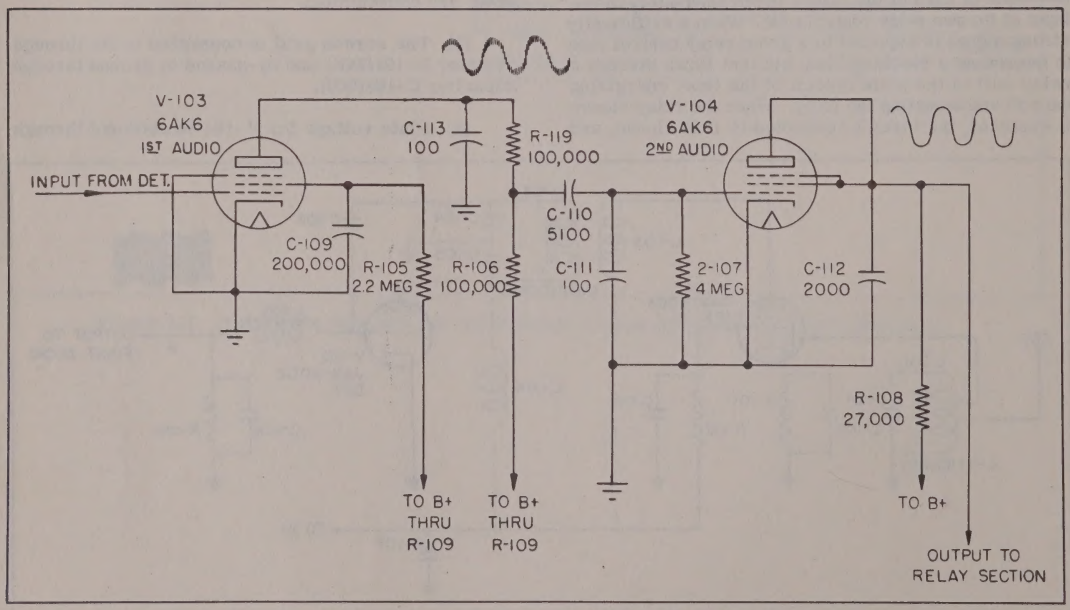


Figure 4-3. Receiver R-196(XA-A)/ARW-26Y, First and Second Audio Stages, Functional Diagram

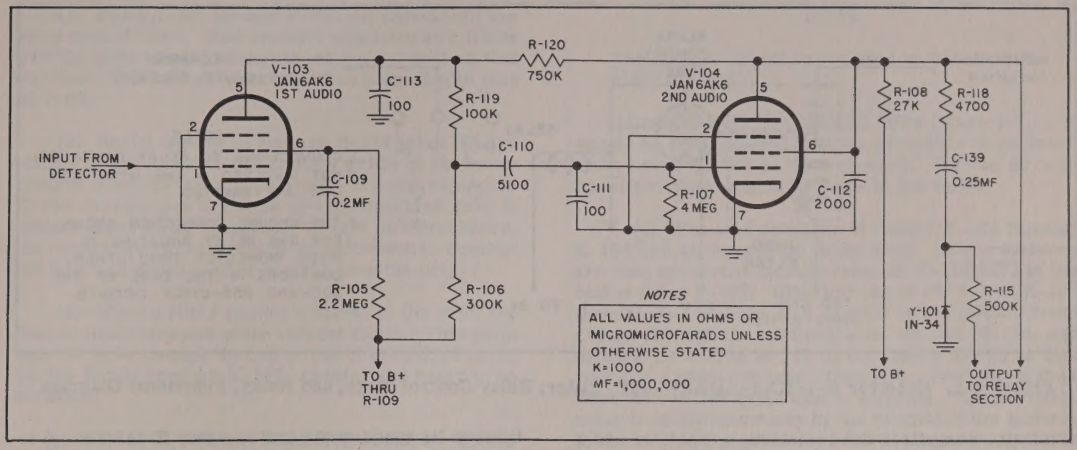


Figure 4-4. Receiver R-196/ARW-26Y, First and Second Audio Stages, Functional Diagram

on the positive peaks of the quench cycle. By operating the first audio amplifier at the proper point on its grid voltage plate current curve, only the peaks containing the audio signals are amplified. Under this condition, most of the quench voltage is prevented from reaching the second audio amplifier tube. The proper operating point is governed by the bias developed across the grid-leak resistor R-103, which is also the grid return for the first amplifier tube, and the screen voltage applied to the first audio amplifier tube.

(2) The audio signal from the detector tube is coupled directly to the grid of V-103, a JAN-6AK6, the first amplifier tube, where it is amplified by the tube and appears across the plate load resistor R-106. Note that the value of R-106 is 100,000 ohms when used in the R-196(XA-A)/ARW-26Y and 300,000 ohms when used in the R-196/ARW-26Y.

(3) The screen grid of V-103 is connected to B+ through resistor R-108(2.2 meg) and is bypassed to ground through capacitor C-109(0.2 mf).

(4) The amplified audio signal is coupled to the midpoint of the plate load resistors R-119(100K) and R-106 of the first audio amplifier stage through capacitor C-110(5100) to the grid of the second audio amplifier tube, V-104. Capacitor C-113(100) and resistor R-119 from an r-f filter in the plate circuit of the first amplifier tube.

d. SECOND AUDIO AMPLIFIER STAGE IN R-196(XA-A)/ARW-26Y. (See figure 4-3.)

(1) V-104, a JAN-6AK6, the second audio amplifier tube is connected as a triode, with its screen grid, suppressor grid, and plate tied together. The control grid is returned through R-107(4 meg) to ground.

(2) The signal applied to the control grid is further amplified in this stage, the amplified voltage appearing across plate load resistor R-108(27K).

(3) The plate signal is connected through capacitor C-136(1000) and through the cable which connects R-196(XA-A)/ARW-26Y and the battery box, to the headphone jack J-301. Headphones may be plugged in this jack for aural monitoring. The output to the audio selector filters is taken ahead of capacitor C-136. To further remove any remaining quench frequency and random noise above 3000 cycles, capacitor C-112 (2000) is used as a high frequency bypass from plate to ground.

e. SECOND AUDIO AMPLIFIER STAGE IN R-196/ARW-26Y. (See figure 4-4.)

(1) V-104, a JAN-6AK6, is connected as a triode with the screen grid and the plate tied together. The control grid is returned to ground through resistor R-107(4 meg). The suppressor grid is connected to the cathode.

(2) The signal applied to the control grid is further amplified in this stage, the amplified voltage appearing across plate load resistor R-108(27K). In order to gain additional stability of the circuit, some of the signal appearing on the plate is fed back to the control grid input circuit through resistor R-120(750K). This inverse feedback also lowers the plate impedance.

(3) The plate signal is connected through capacitor C-136(1000) and through the cable which connects R-196/ARW-26Y and the battery box, to the headphone jack J-301. Headphones may be plugged into this jack for aural monitoring. The output for the audio selector filters is taken ahead of capacitor C-136. To remove any remaining quench frequency and random noise above 3000 cycles, capacitor C-112(2000) is used as a high-frequency bypass from plate to ground.

(4) The output of the second audio amplifier is split, one side feeding directly to the audio filter networks. The other side feeds into the audio filter network through a spurious frequency eliminator circuit. This frequency

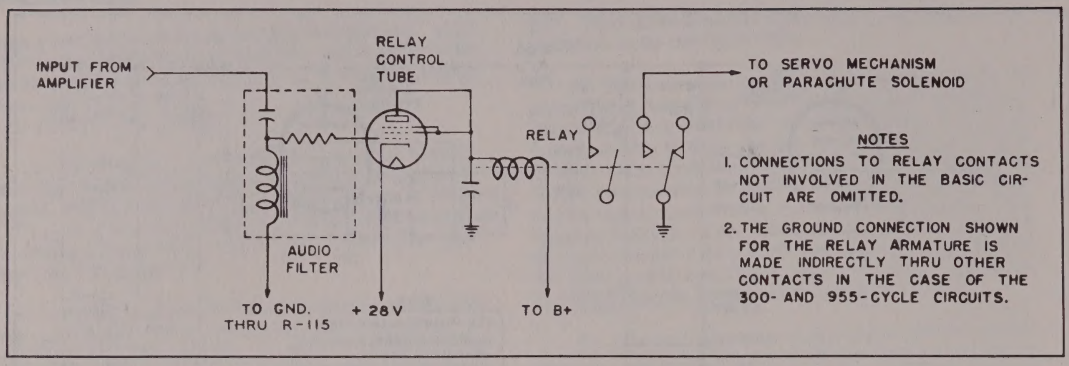

INPUT FROM AMPLIFIER
RELAY CONTROL TUBE
RELAY
TO SERVO MECHANISM OR PARACHUTE SOLENOID
NOTES
1. CONNECTIONS TO RELAY CONTACTS NOT INVOLVED IN THE BASIC CIRCUIT ARE OMITTED.
2. THE GROUND CONNECTION SHOWN FOR THE RELAY ARMATURE IS MADE INDIRECTLY THRU OTHER CONTACTS IN THE CASE OF THE 300- AND 955-CYCLE CIRCUITS.
AUDIO FILTER
TO GND. THRU R-115
+ 28 V
TO B+

Figure 4-5. Receiver R-196(XA-A)/ARW-26Y, Filter, Relay Control Stage, and Relay, Functional Diagram

eliminator comprises two resistors, a capacitor and a crystal, and functions as follows:

(a) At any "OFF" audio frequency, the output of the second audio amplifier increases since it is unloaded. The crystal Y-101, a type IN-34, rectifies this voltage and this rectified voltage is applied to the grids of the relay tubes as additional bias voltage. Thus the relay tubes are blocked.

(b) The bias voltage is fed to the relay tubes through resistor R-115(500K). The crystal is protected by the current limiting resistor R-118(4700) while capacitor C-139(0.25 mf) is used for d-c blocking.

f. AUDIO FILTERS IN R-196(XA-A)/ARW-26Y. (See figure 4-5.)

(1) Five separate filter circuits act as audio-frequency band-pass filters. The filter circuits are connected in parallel to the output of the second audio amplifier, and each is tuned to respond to different predetermined frequencies. All are series resonant circuits consisting of an inductor and capacitor in series. The signal is fed through the capacitor to the control grid of the particular relay tube. Each grid is returned through its tuned choke and resistor R-115(1 meg) to ground. R-115 is bypassed by C-134(0.2 mf).

(2) When responding to its frequency, each filter builds up, through resonant action, a voltage sufficient to overcome the grid bias on its particular relay control tube.

g. AUDIO FILTERS IN R-196/ARW-26Y. (See figure 4-6.)

(1) Five separate filter circuits act as audio-frequency band-pass filters. The filter circuits are connected in parallel to the output of the second audio amplifier, and each is tuned to respond to a different predetermined frequency. All are series resonant circuits consisting of an inductor and capacitor in series. The signal is fed through the capacitor to control grid of the particular relay tube. Each grid is returned through its tuned choke, resistor R-115(500K) and crystal Y-101 to ground. The crystal Y-101 and resistor R-115 are bypassed to ground by capacitor C-134(0.2 mf).

h. RELAY CONTROL TUBE CIRCUITS IN R-196 (XA-A)/ARW-26Y. (See figure 4-5.)

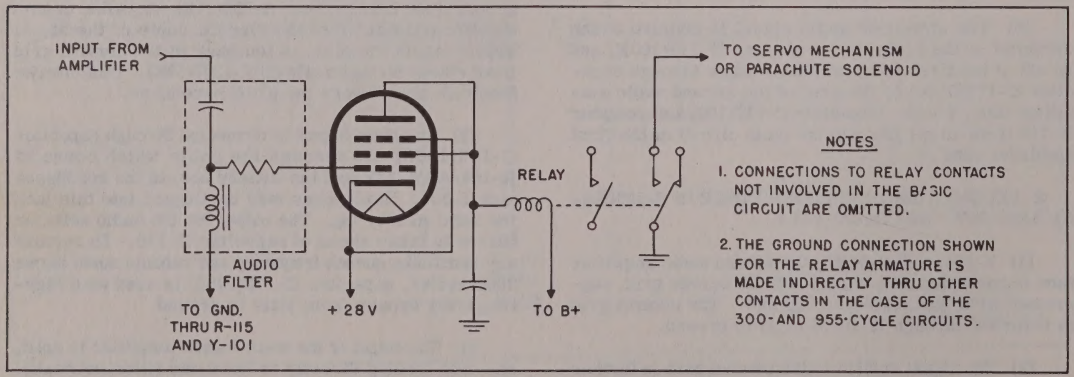

INPUT FROM AMPLIFIER
TO SERVO MECHANISM OR PARACHUTE SOLENOID
RELAY
NOTES
1. CONNECTIONS TO RELAY CONTACTS NOT INVOLVED IN THE BASIC CIRCUIT ARE OMITTED.
2. THE GROUND CONNECTION SHOWN FOR THE RELAY ARMATURE IS MADE INDIRECTLY THRU OTHER CONTACTS IN THE CASE OF THE 300-AND 955-CYCLE CIRCUITS.
AUDIO FILTER
TO GND. THRU R-115 AND Y-101
+ 28 V
TO B+

Figure 4-6. Receiver R-196/ARW-26Y, Filter, Relay Control Stage, and Relay, Functional Diagram

(1) Tubes V-105 through V-109 (all JAN-6AK6) are relay control tubes. They are each connected as a triode with the plate, suppressor grid and screen grid all tied together. The cathode of each tube is connected to plus 28 volts.

(2) Resistors R-110 through R-114 (all 47K) are placed in series with the control grids of the relay control tubes to limit the current in case capacitor C-134 discharges because of a momentary grid to cathode short during operation. Without these resistors, the discharge current would be sufficient to damage the tube and cause loss of control over the craft.

(3) When a filter passes a signal to the grid, the bias is overcome and plate current flows. This plate current flows through the coil of one of the relays in the series K-101 through K-105, causing the relay to be actuated.

i. RELAY CONTROL TUBE CIRCUITS IN R-196/ARW-26Y. (See figure 4-6.)

(1) Tubes V-105 through V-109 (all JAN-6AK6) are the relay control tubes. The screen grid and plate of each tube is connected together while the suppressor grid is tied to the cathode. The cathode of each tube is connected to plus 28 volts.

(2) Resistors R-110 through R-114 (all 100K) are placed in series with the control grids of the relay control tubes to limit the current on the positive cycle of the filter output and thereby maintain the efficiency of the circuit.

(3) Additional bias is applied to the tube by the spurious frequency network as described in paragraph 2.e.(4) of this section. When a filter passes a signal to the grid, the bias is overcome and plate current flows. This plate current flows through the coil of one of the relays in the series K-101 through K-105, causing the relay to actuate.

j. RELAY CIRCUITS.

(1) COILS. (See figures 4-5 and 4-6.) - Each relay coil circuit is bypassed by one of the capacitors in the series C-128 through C-132(all 0.2 mf). The current through these relays would pulsate at the frequency of the applied audio tone if the relays were not filtered. The action of the bypass capacitors is to smooth these pulsations into a steady current. The current flowing through the relay when a tone is received, will be between 3.3 and 7 milliamperes under normal conditions.

(2) BASIC CONTACT CIRCUIT. - Each relay has both spst and spdt contacts. The normally open spdt contact of each relay connects with the particular servo or parachute solenoid circuit which the relay controls. When the relay is actuated, the armature of the spdt section grounds the normally open contact and completes the circuit.

(3) NEUTRAL CIRCUIT. (See figure 4-9.) - When neither K-101 ("right") nor K-102 ("left") is actuated, a special circuit is completed through the normally closed contacts of these relays. This circuit causes the "neutral" servo function to be energized.

NOTE

The neutral circuit is not used in Receiver R-196/ARW-26Y.

(4) PARACHUTE CIRCUIT. (See figure 4-7.) - It should be remembered that the parachute is released when relay K-105 is de-actuated. During normal operation current always flows in the relay.

(a) The spst contacts of relays K-101 through K-104 are all connected in parallel. The armatures are then connected through resistor R-116(15K) to the coil of relay K-105. When any one of the relays K-101 through K-104 closes, a circuit is completed from ground through the spst contacts, through R-116, and through the coil of K-105 to B+. Relay K-105 is thus energized when any other tone is present, as well as when its own 955-cycle tone is supplied. The 955 cycle relay is de-energized only by the removal of the carrier, by the removal of all tone modulation from the carrier, or by certain types of failure within the receiving equipment.

NOTE

The transmitting equipment which controls AN/ARW-26(XA-2)Y and AN/ARW-26Y are designed so that when any of the four tones (300, 650, 1390, and 3000 cycles) is applied, the 955-cycle tone is removed. When these tones are not applied, the 955-cycle tone is applied. Therefore, under normal operation of the equipment, current will always flow through the 955-cycle relay coil. Since the switching of tones in the transmitter mechanism causes an interruption of current flow, a delay circuit has been provided to keep the 955-cycle relay closed during this interruption. This delay is obtained by connecting capacitor C-133 (15 mf) from the high side of the coil of relay K-105 to B+. The resulting delay is approximately one second.

(b) Another special circuit is provided to release the parachute in the event of a certain type of failure in R-196(XA-A)/ARW-26Y. The normally closed contact of relays K-103 and K-104 are connected in parallel, and the armature of relay K-105 is grounded through them. This circuit provides protection against the possibility of a short in the bias causing the simultaneous operation of all the relay tubes and the consequent holding of the parachute. The simultaneous operation of K-103 and K-104 will break the parachute circuit and cause the release of the parachute under these circumstances. This circuit is not used in R-196/ARW-26Y.

(5) SUMMARY.

(a) When no carrier is received, no relays operate, and the parachute solenoid releases the parachute.

(b) When an unmodulated carrier is received, no relays operate, and the parachute solenoid releases the parachute.

(c) Whenever a carrier is received which is modulated by an audio tone of either 300, 650, 955, 1390

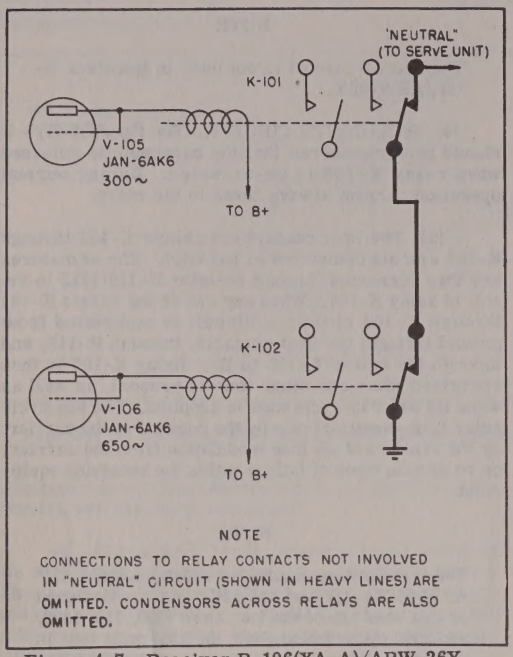


Figure 4-7. Receiver R-196(XA-A)/ARW-26Y, Neutral Circuit, Functional Diagram

or 3000 cycles per second, the 955-cycle is actuated, and the parachute is held.

(d) Whenever a carrier is received which is modulated by an audio of 300, 650, 1390, or 3000 cycles per second, the corresponding relay is actuated, in addition to the 955-cycle relay. The servo corresponding to the relay is actuated.

k. POWER SUPPLY CIRCUITS IN R-196(XA-A)/ARW-26Y. (See figure 4-9 and 8-1.)

(1) The primary voltage, 28 vdc, is derived from the battery box through cord CS-622/ARW-26Y and receptacle J-103, pin D.

(2) All the tube filaments are connected in a series-parallel arrangement to the 28-volt supply. (See figure 4-9.) R-117(15) is a voltage-dropping resistor.

(3) The plate supply is 180-volt dc. It is obtained from the 28-volt synchronous vibrator power supply which is an integral part of receiver. The high voltage is supplied from transformer T-101 through filter resistor R-118(500). Capacitor C-135(0.02 mf) is a buffer across the transformer. C-114(0.01 mf) is a high-voltage filter capacitor. Capacitors C-137(100) and C-138(0.1 mf) in conjunction with coil L-113 form a filter for both high and low frequencies in the filament circuit.

(a) Plate voltage is applied directly to the plate load of V-104. The plate voltage for V-101, V-102 and V-103 is supplied through filter resistor R-109(4700). The two parts of capacitor C-112(20-20 mf) complete the filter network. One wire from filter resistor R-118 terminates at terminal E on plug J-103.

(b) Relay K-101 through K-105 in the plate circuits of the control tubes have a common end which is connected to terminal F on jack J-103.

(4) The bias voltage for the relay tubes V-105 through V-109 is derived by connecting the cathodes together and connecting to terminal D on plug J-103, thereby placing the cathodes at the positive 28 volts with respect to ground.

(5) Resistor R-115(500K) is common to the grid returns of the relay tubes V-105 through V-109. This resistor in series with the relay tube grids increases the bias potential beyond a negative 28 volts by an amount proportional to the grid current flowing through it. For example: when a 300-cycle tone is applied, it enters the filter bank and is passed through the 300-cycle filter only. Its positive peaks overcome the 28-volt bias on the 300-cycle relay tube and cause the grid to draw current. This current increases the 28-volt bias by an amount proportional to the signal input, thus increasing the bias on the remaining tubes and thereby preventing those tubes from drawing plate current. Resistor R-115 is bypassed by capacitor C-134(0.2 mf) to provide a path to ground for audio tones.

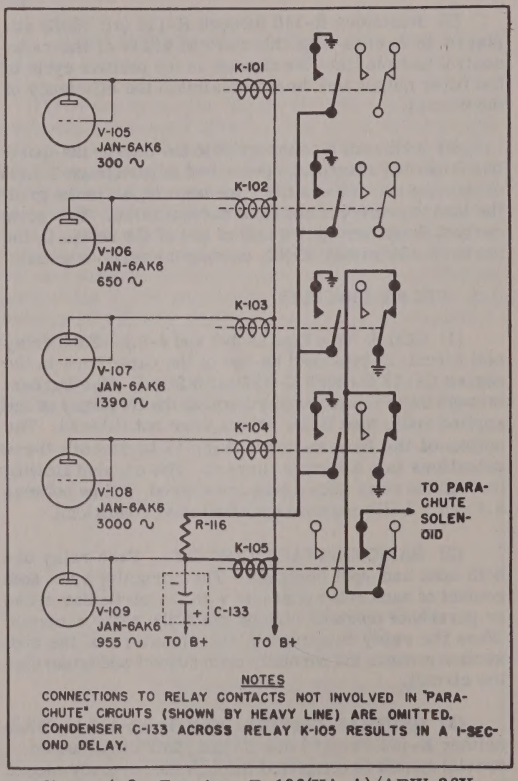


Figure 4-8. Receiver R-196(XA-A)/ARW-26Y, Special Parachute Circuits, Functional Diagram

m. POWER SUPPLY CIRCUITS IN R-196/ARW-26Y. (See figures 4-9 and 8-7.)

(1) The primary voltage, 28 vdc, is derived from the battery box through cable CX-662/ARW-26 and receptacle J-103, pin D.

(2) All tube filaments are connected in a series-parallel arrangement to the 28-volt supply. (See figure 4-9.) R-117(15) is a voltage-dropping resistor.

(3) The plate supply voltage is 210-volts dc. It is obtained from a 28-volt synchronous vibrator power supply which is an integral part of the receiver. The high voltage is supplied from transformer T-101. Capacitor C-135(0.02 mf) is a buffer across the transformer. C-114(0.01 mf) is a buffer to ground. Capacitor C-137(100) in conjunction with coil L-113 form a high-frequency filter in the filament circuits. Capacitors C-138(0.25 mf) and C-140(0.25 mf) are primary buffers.

(a) Plate voltage is applied directly to the plate load of V-104. V-101, V-102 and V-103 are supplied through filter resistor R-109(4700). The two parts of capacitor C-122(20-20 mf) complete the filter.

(b) Relays K-101 through K-105 in the plate circuits of the control tubes have a common end which is connected to terminal F of jack J-103. Terminal F at the other end of cable CX-662/ARW-26 is connected by a jumper to terminal E. Terminal E on jack J-103 is connected to the plate supply. Thus the plate supply is effective only when Cable CX-662/ARW-26 is installed.

(4) A constant bias voltage for relay tubes V-105 through V-109 is obtained by connecting their cathodes together and then connecting them to terminal D on jack J-103, thereby placing them at a positive 28-volts with respect to ground.

(a) Resistor R-115(500K) and crystal Y-101(1N34) are common to the grid returns of the relay tube V-105 through V-109. This network in series with the relay tube grids increases the bias potential beyond a negative 28-volts by an amount proportional to the grid current

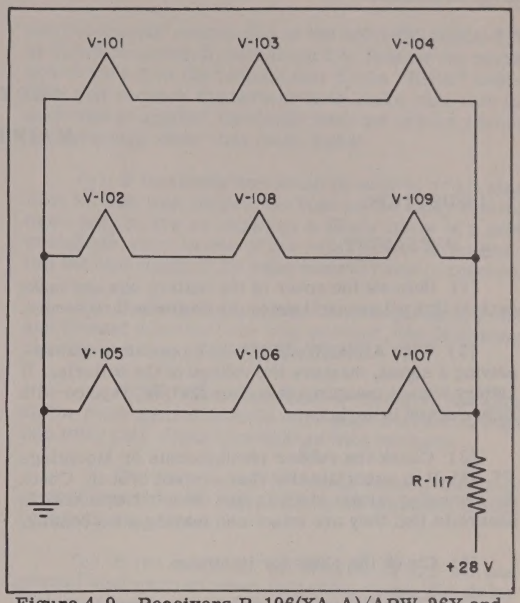


Figure 4-9. Receivers R-196(XA-A)/ARW-26Y and R-196/ARW-26Y, Heater Circuits, Functional Diagram

flowing through it. For example: when a 300-cycle tone is applied, it enters the filter bank and is passed through the 300-cycle filter only. Its positive peaks overcome the bias on the 300-cycle relay tube and cause the grid to draw current. This increases the 28-volt bias by an amount proportional to the signal input, thus increasing the bias on the remaining tubes and thereby preventing those tubes from drawing plate current. Additional bias is applied to the relay tubes by the spurious frequency eliminator network as described in paragraph 2.e. of this section. Resistor R-155 and crystal Y-101 are bypassed to ground through capacitor C-134(0.2 mf).

SECTION V

MAINTENANCE

1. INSPECTION.

a. PREFLIGHT.

(1) Remove the cover of the battery box and make certain that all connections to the batteries are secure.

(2) With AN/ARW-26(XA-2)Y operating and receiving a signal, measure the voltage of the batteries. If battery voltage measures less than 22-1/2V, replace with fully charged batteries.

(3) Check the rubber shockmounts on Mountings FT-441-B to ascertain that they are not broken. Check the grounding straps which bridge these shockmounts to ascertain that they are intact and making good contact.

(4) Check the plugs for tightness.

(5) Check the seating of the audio tubes in R-196 (XA-A)/ARW-26Y.

(6) Check R-196(XA-A)/ARW-26Y, antenna and battery box for solid mounting.

(7) Perform the overall check described in section II, paragraph 4.

b. POST-FLIGHT. - Remove receiver chassis, check tubes and perform each of the checks listed in paragraph 1 a above, after each flight and at a 100-hour inspection - and in addition the following:

(1) Open the front panel of R-196(XA-A)/ARW-26Y and pull out the chassis. Remove tubes and test them with a standard tester (Army Type I-177A). Do not overlook the two tubes inside the tuning unit. In removing the tuning unit, follow the directions in section V, paragraph 3 a. Re-install all tubes which check satisfactorily. Install new tubes where required. Make certain that the tuning unit is fastened tightly into place before proceeding with the next step.

(2) Examine all relays for absence of excessive looseness in their armatures and for cleanness of contacts.

(3) Examine all wiring and solder joints for corrosion and leakage paths.

(4) Replace the chassis and fasten the panel securely.

(5) Perform the test of overall operation described in section II, paragraph 3.

(6) Examine the silica-gel crystals to determine their remaining activity. The crystals are sealed in a transparent cartridge with holes in each end. The color of the crystals serves as a guide to the amount of moisture absorbing activity remaining in them. A paper chart fastened to the cartridge shows the various colors which the crystals assume and the condition which each color indicates. These colors are as follows:

Blue	Safe
Lavender	Safe
Dark pink	Unsafe
Light pink	Unsafe

If the silica-gel is "unsafe," the whole cartridge should be replaced. If a replacement is not available, it is possible to reactivate the silica-gel as described in section V, paragraph 4 d.

CAUTION

Do not leave the case of the receiver open longer than necessary, as the silica-gel cartridge will absorb moisture from the air.

(7) Examine the moisture sealing compound used on the plugs. When the set is packed by the manufacturer, the plugs are treated with Dow-Corning Ignition Sealing Compound #4 Medium. This compound must be renewed when the moisture seal has been broken by scratches or other wear. If the old coating is very dirty, it should be removed with carbon tetrachloride before applying the new compound.

(8) Check all plugs for tightness. Make certain that the plug which connects with the battery box receptacle is not attached, or that the equipment switch in the aircraft is in the "Off" position.

(9) Check the Receiver Selector R-196(XA-A)/ ARW-26Y, battery box, and antenna for proper mounting. Make certain that all nuts are tight and that the receiver shockmounts and ground straps are intact.

2. ALIGNMENT.

Whenever the r-f amplifier and detector tubes are replaced, the tuning unit must be realigned to obtain the best operation of the equipment. The procedure is given in full in section II, paragraph 5.

3. TROUBLE SHOOTING. (See figure 8-1.)

a. PRELIMINARY. - The most probable causes of trouble in Radio Receiving Set AN/ARW-26(XA-2)Y are tube failures, broken cords or cord connections, or defective batteries.

b. DETAILED.

(1) DETECTOR AND AUDIO AMPLIFIERS. - With the battery box but not the servo equipment and parachute solenoid connected, turn Radio Receiving Set AN/ARW-26(XA-2)Y on and allow it to warm up for about half a minute with no signal input.

(a) The normal loud hiss of the super-regenerative detector should be heard when headphones are plugged into the jack on the front panel of the battery box. If this hiss is heard, the detector and audio amplifier stages are operating normally and the rf amplifier stage should be checked, as described in section V, paragraph 3 b (2).

(b) If no hiss is heard, the detector may not be super-regenerating or one of the audio amplifiers may be dead. To distinguish between these failures, touch the grid of the first audio amplifier tube with a screw driver, or feed in an audio signal to this grid from the audio oscillator through a 0.01 to 0.1 microfarad paper condenser. Be sure not to short other nearby terminals.

1. If there is an audible click or oscillation, or the audio signal is heard, the audio amplifiers are functioning. It may be assumed that the trouble has been localized in the detector stage. Check by replacing the tuning unit with one that is in operating condition following the directions for replacement in section V, paragraph 4 a. If the trouble is not remedied, check voltages on J-101.

2. If no click is heard, audio amplifier stages may be at fault. Touch the grid of the second audio amplifier stage with the screw driver. If a click is heard, the trouble has probably been localized in the first audio amplifier stage. If it is not heard, the trouble has probably been localized in the second audio amplifier stage. In locating the particular circuit element at fault, look first for obvious failures such as broken wires or tube failure. If the cause of trouble is not located, check the socket voltages for agreement with those shown in section V, table 5-2.

(2) RF AMPLIFIER. - With AN/ARW-26(XA-2)Y on, radiate an unmodulated carrier of the proper frequency from an associated transmitter or signal generator.

(a) The volume of the super-regenerative hiss should be reduced by an amount proportional to the strength of the applied signal. If this occurs, no further check on the rf amplifier is necessary.

(b) If this does not occur, the rf amplifier probably is not functioning, or the resonant frequency of the tuning unit is not the same as the carrier frequency. Check by replacing the tuning unit with one that is in operating condition, following the directions for replacement given in section V, paragraph 4 a.

(3) AUDIO FILTERS, RELAY CONTROL TUBES, AND RELAYS. - With AN/ARW-26(XA-2)Y in operation, use the associated transmitter as a signal source. If the transmitter has an output power switch, place the switch in the "LOW" position. Apply the modulating tones to the transmitter. Check for continuity at the six-contact and two-contact receptacles on the AN/ARW-26(XA-2)Y as listed in section II, paragraph 2 b. Release the output power switch of the transmitter to the "HIGH" position, and recheck the terminals to make sure that as each tone is applied, continuity does not appear across any terminals other than those listed.

(a) If continuity was found in several or all pins when no tone was applied, the bias on the relay control tubes may be low or missing. A likely cause is a grid to cathode short in one of the relay tubes. Remember that the bias supply to all relay control tubes is common.

(b) If continuity appeared between pin B on J-104 and ground when no tone was present, the following possible causes should be checked:

1. The bias voltage may be shorted, causing all the relay control tubes to draw plate current through this relay coil. Check bias voltage with voltmeter.

2. The plate current of one or more of the relay control tubes may be high, even at normal bias. Check by substituting tubes.

(c) If the continuity between pin B on J-104 and ground disappeared when switching tones, the delay in the de-energizing of relay K-105 may be insufficient because of a defective time delay condenser C-133. Check by substituting another condenser.

(d) If continuity between any pin and ground did not occur for a modulated tone as the chart in section II, paragraph 2 b indicates, the trouble has been localized to the filter, relay control tube, and relay circuits for that particular audio frequency. To localize the trouble further, proceed as follows:

1. Check the tube socket voltages of the relay control tube by the voltages given in section V, table 5-2

2. Replace the relay control tube involved.

3. Check the relay coil for a resistance of approximately 10,000 ohms.

4. Check the audio filter choke for continuity. The correct d-c resistance readings are given in section V, table 5-3.

5. Check the relay for proper adjustment. The relays should pull in with 2.5 milliamperes ±10% passing through the coil and drop out with 1.0 milliampere.

CAUTION

Do not change factory adjustment of relays to compensate for faulty operation of external circuits. Such adjustments may result in loss of control of the craft.

c. TROUBLE CHART. The following trouble chart lists typical troubles to be expected in the operation of this equipment. Possible locations of the source of the trouble are given along with the remedy for each cause of trouble.

TABLE 5-1. TROUBLE CHART

Trouble	Possible Location	Remedy
1. No remote control functions operate.	Audio amplifier tube or tubes.	Replace with good tube or tubes.
	Tuning Unit TN-109/ARW-26A.	Replace entire unit.
	Antenna cord.	Replace or repair.
	Batteries.	Replace.
	Vibrator.	Replace.
	Cords from receiver to battery box.	Replace or repair.
	Circuit components associated with audio amplifier tubes.	Locate defective component or components and replace or repair.
2. One or two remote control functions inoperative.	Relay control tube or tubes.	Locate and replace relay control tube or tubes controlling missing functions.
	Cords running from receiver to servo equipment.	Replace or repair.
	Audio filter or filters.	Locate and replace defective component or components.
	Relay or relays.	Clean, repair, or replace.
3. Several or all relays operate without signal.	No relay control tube grid bias.	Check relay tube for grid to cathode short. Check C-133 for short or leakage.
4. Parachute opens while switching tones.	Capacitor C-133.	Replace.
5. Parachute does not open all modulation is removed.	No relay control tube grid bias.	Check relay tube for grid to cathode short. Check C-133 for short or leakage.
	Relay.	Clean or replace.
	External noises.	Correct external condition if possible.
	V-101, V-102, or V-103.	Replace defective or microphonic tube.
6. Tuning unit oscillates at audio frequency without signal.	Detector tube.	Replace V-101.

4. SPECIAL MAINTENANCE OPERATIONS.

a. REMOVAL OF TUNING UNIT TN109/ARW-26A. - First remove cover of R-196(XA-A)/ARW-26Y. Then remove the single screw in the bracket near the top of the tuning unit. Lift the tuning unit out from the top by rocking it from side to side to free it from the plug contacts.

b. REPAIR OF TN109/ARW-26A. - Great care must be taken in undertaking any repairs on the tuning unit,

since moving any of the parts from their original position may result in a considerable frequency shift.

(1) To remove the cover of the tuning unit, unscrew the five screws which hold it in place and slip it off. When replacing the cover, be sure that the markings "R.F." and "DET." on the tuning holes are in their proper positions.

(2) It is extremely difficult to take tube-socket voltage readings on the tuning unit while it is in place in the receiver; therefore, readings are given at the pins of the tuning unit plug instead. It will be necessary to rely on these readings and on continuity tests in repairing the tuning unit.

c. CHECK FOR NORMAL SENSITIVITY. - The normal sensitivity of Receiver Selector R-196(XA-A)/ARW-26Y is such that an input of 200 microvolts or less, modulated 60 per cent by an audio frequency within ±3 per cent of any of the nominal audio frequencies, will cause the corresponding relay to operate satisfactorily.

d. REACTIVATION OF SILICA-GEL. - Saw the end off the cartridge with a hacksaw and remove the gel. Place it in a suitable flat pan and heat it to a temperature of 350°F (117°C) until it assumes a deep blue color. During this heating process it is advisable to stir the particles occasionally so that all are evenly heated. Do not exceed a temperature of 400°F (204°C), or the activity of the silica-gel may be permanently impaired. Dry out the cartridge thoroughly by heating, being careful not to overheat it. Refill the cartridge and cement in place the end which was removed.

5. VOLTAGE READINGS.

Table 5-2 gives voltage readings to ground from the terminals of the Tuning Unit TN-109/ARW-26A plug and from the tube sockets of R-196(XA-A)/ARW-26Y. The following conditions were observed.

Antenna input disconnected.
Tuning unit and tubes in place.
Input voltage - 28 volt.
Each voltage taken on scale which gives longest needle swing.

TABLE 5-2. VOLTAGE READINGS

Terminal or Pin	Readings in Volts 20,000 ohms per Volt Meter used (TS-352/U)							
	J-101	V-103	V-104	V-105	V-106	V-107	V-108	V-109
1	6.8	-18	.8	0	0	0	0	0
2	0	.8	60	198	198	198	198	198
3	106	6.8	13.5	0	7.1	14	7.2	14
4	0	14	20.5	7.2	14	21	14	21
5	7.2	90	60	198	198	198	198	198
6	106	58	60	198	198	198	198	198
7	-18	0	0	28	28	28	28	28
	1,000 ohms per Volt Meter used (TS-297/U)							
1	6.8	-20	-22	0	0	0	0	0
2	0	0	60	190	195	190	190	192
3	105	6.7	13.7	0	7.2	14.2	7.2	14.3
4	0	13.7	21.5	7.2	14.2	21.5	14.2	21.5
5	6.5	5.5	60	190	195	190	190	192
6	105	*.2	60	190	195	190	190	192
7	-20	0	0	28.5	28.5	28.5	28.5	28.5

* All reading same on each scale

6. RESISTANCE READINGS.

Table 5-3 gives resistance readings to ground from the terminals of the Tuning Unit TN-109/ARW-26A plug and from the tube sockets of Radio Receiver-Selector R-196(XA-A)/ARW-26Y. The following conditions were observed.

Tuning unit and tubes in place.
All cables disconnected.
20,000 ohms per volt meter used.

TABLE 5-3. RESISTANCE MEASUREMENTS

Terminal or Pin	Readings in Ohms							
	J-101	V-103	V-104	V-105	V-106	V-107	V-108	V-109
1	* 4	25000	4	1 meg	1 meg	1 meg	1 meg	1 meg
2	0	0	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.
3	Inf.	4	7	0	4.5	6.5	4.5	6.5
4	0	7	6	4.5	6.5	5.5	6.5	5.5
5	* 4	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.
6	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.
7	25000	0	0	17	17	17	17	17

* These readings across the filaments must be taken immediately after applying the test prods; otherwise the battery of the ohmmeter will heat up the filaments and the resistance will increase.

7. RESISTANCE READINGS ACROSS AUDIO CHOKES AND RELAY COILS.

Table 5-4 gives the resistance readings across audio chokes and relay coils taken with a 20,000 ohm per volt meter. The reading in each case if for one individual choke or relay coil between the points given in the second column.

TABLE 5-4. CHOKE AND COIL RESISTANCE READINGS.

Reference Symbols	Points Measured	Readings in Ohms
L-101 through L-105	Terminals 2 and 3 on Z-101 through Z-105	50,000
K-101 through K-105	Coil terminals	10,000

SECTION VI

SUPPLEMENTARY DATA

1. TUBE COMPLEMENT.

TABLE 6-1. FUNCTIONAL TUBE COMPLEMENT

Reference Symbol	Type	Location	Function
V-101	JAN-9003	Tuning Unit	Detector
V-102	JAN-9002	Tuning Unit	Rf amplifier
V-103	JAN-6AK6	Audio Chassis	1st audio amplifier
V-104	JAN-6AK6	Audio Chassis	2nd audio amplifier
V-105	JAN-6AK6	Audio Chassis	300 cycle relay control
V-106	JAN-6AK6	Audio Chassis	650 cycle relay control
V-107	JAN-6AK6	Audio Chassis	1390 cycle relay control
V-108	JAN-6AK6	Audio Chassis	3000 cycle relay control
V-109	JAN-6AK6	Audio Chassis	955 cycle relay control

2. FREQUENCY RANGE.

Tuning Unit TN-109/ARW-26A the plug-in radio frequency section of Receiver Selector R-196(XA-A)/ARW-26Y, is capable of being tuned to any carrier frequency between 60.0 to 74.0 megacycles. The specified performance is delivered at any frequency within this range.

3. PRESET FREQUENCY.

This Tuning Unit is factory tuned in Receiver Selector R-196(XA-A)/ARW-26Y to the preset frequency of 73 megacycles. This frequency may be changed to any frequency within the range of realignment in accordance with the alignment procedure in section II, paragraph 5.

4. SENSITIVITY.

a. TEST CONDITIONS.

(1) The signal frequency shall be the nominal frequency at which the receiver is aligned, ±0.05 per cent.

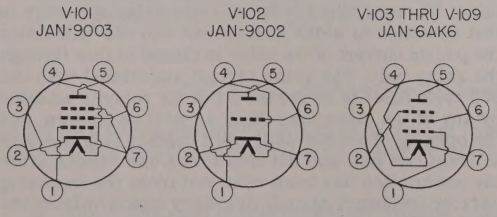


Figure 6-1. Receiver R-196(XA-A)/ARW-26Y, Tube Base Diagram

(2) A 50 mmf mica capacitor shall be used as a dummy antenna and shall be connected in series between the output of the signal generator and the antenna input receptacle of R-196(XA-A)/ARW-26Y. The ground side of the signal generator output shall be connected to the case of R-196(XA-A)/ARW-26Y.

b. TEST RESULTS. - Positive operation of the relays shall occur with input signal intensities between 200 and 20,000 microvolts which are modulated between 60 and 75 per cent at any one of the specified audio frequencies. The operating current through a relay coil shall be at least 1.5 times the minimum relay closing current of 2.5 milliamperes. Any evidence of flutter or other misoperation of the relays is unsatisfactory.

5. SELECTIVITY.

a. TEST CONDITIONS. (See figure 6-2.)

(1) Two similar ultra high-frequency signal generators, TS-437/U or equal, shall be connected through dummy antennas consisting of separate 50 mmf capacitors to the antenna input receptacle of the receiving set, the ground terminal of the signal generator output being connected to the case of the R-196(XA-A)/ARW-26Y.

(2) One signal generator shall be tuned to the "desired" signal, which is an unmodulated signal of a frequency within ±0.05 per cent of the nominal frequency to which the receiver selector under test is resonated.

(3) The other signal generator shall be tuned to the "interfering" signal, which is a signal of a frequency not more than 1-1/2 megacycles removed from the nominal frequency to which the receiver selector under test is resonated, modulated not less than 75 per cent by an audio frequency ±3 per cent of any one of the nominal audio frequencies.

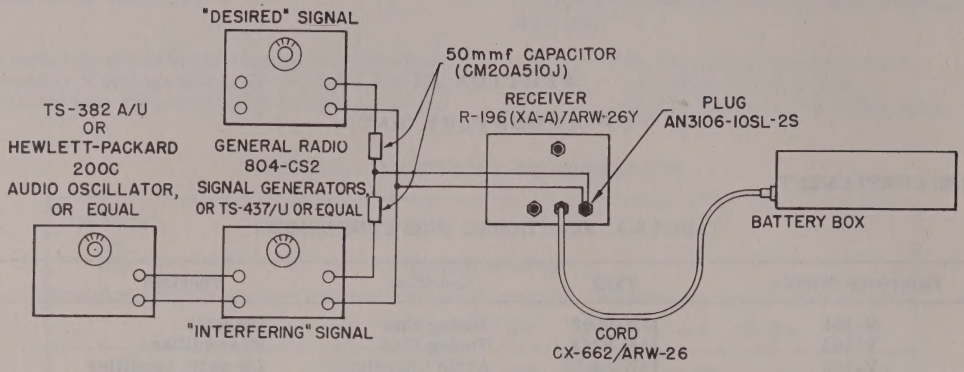


Figure 6-2. Radio Receiving Set AN/ARW-26(XA-2)Y, Setup for Selectivity Check

(4) The output of the interfering signal generator shall be increased to a value not less than 100 times the carrier intensity of the desired signal generator.

b. TEST RESULTS. - There shall be no evidence of any relay becoming energized or chattering.

6. NOISE LEVEL.

Determination of noise level consists of removing the modulation of the signal generator and decreasing the output to zero through several steps. All relays shall open as soon as the modulation is removed and remain open as the field intensity is decreased.

7. STABILITY.

The circuits and relays used are of such design, construction, and adjustment that no chatter or intermittent operation effect shall be exhibited when the conditions of operation are varied to the upper and lower limits specified in this paragraph. The signal frequency and dummy antenna for both sets of conditions are as specified in section VI, paragraph 4 a. At both the upper and lower limits, modulation is applied at ten frequencies, five of which are 3% below the nominal tone frequencies.

	Upper Limits	Lower Limits
Supply voltages	103.5 per cent of nominal voltages.	80 per cent of nominal voltages.
Signal Field Intensity	Sufficient to produce not less than 20,000 microvolts input to AN/ARW-26(XA-2)Y.	Sufficient to produce not more than 200 microvolts input to AN/ARW-26(XA-2)Y
Extent of Modulation.	Not less than 75 per cent.	Not more than 60 per cent.

8. FILTER CHARACTERISTICS.

The nominal response frequencies of the audio-frequency filter networks are 300, 650, 995, 1390, and 3000 cycles per second. When the modulating frequency is within ±3 per cent of the nominal value, the corresponding relay shall operate. The inherent noise level of R-196(XA-A)/ARW-26Y connected to the antenna but with no signal applied, shall be incapable of closing any relay, or of holding it closed.

9. RELAY CHARACTERISTICS.

a. Provision is made for operating any one of five relays by means of the audio-frequency selective circuits. The condition for satisfactory relay operation is that condition in which at least one and one-half times the pull-in current of the relay is caused to flow through the relay unit. The relay circuit associated with the 955 cycle filter is so designed that its relay is actuated by any of the other four tones as well as its own, and the opening of its normally open contact is delayed by at least one half and not more than one second after the modulation has been removed from the incoming carrier frequency signal. Auxiliary contacts from the 300 and 650 cycle relays are provided and so connected that when both are de-energized, an additional "neutral" circuit is open. Auxiliary contacts on the 1390 and 3000 cycle relays provide against the possibility of a failure

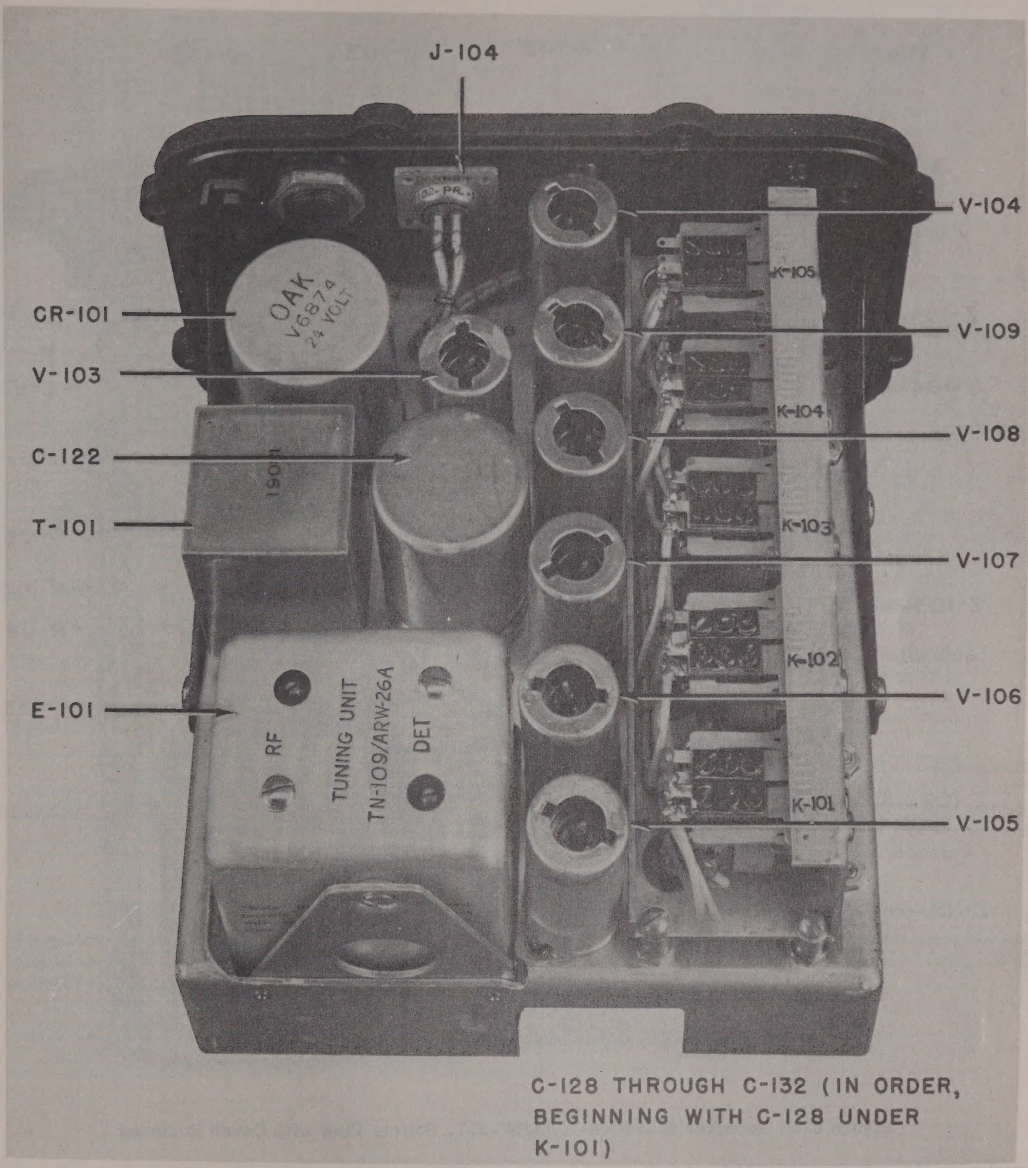


Figure 6-3. Receiver R-196(XA-A)/ARW-26Y, Top View with Cover Removed

in the bias supply causing all relays to operate at once and thus prevent the parachute from being released.

b. The relays used in this equipment provide completely reliable operation under any possible combination of service conditions, and make a firm, low-resistance, and vibration-proof contact on both the front and back contacts. Adequate dust proofing is provided. The relays and relay circuits are so designed, constructed, and adjusted that the "minimum closing" current through the relay coil is at least 100 per cent greater than the maximum "spill over" current caused to flow through the coil by an adjacent channel operating under the high-level standard test conditions listed in section VI, paragraph 7. Clearances and armature return-spring

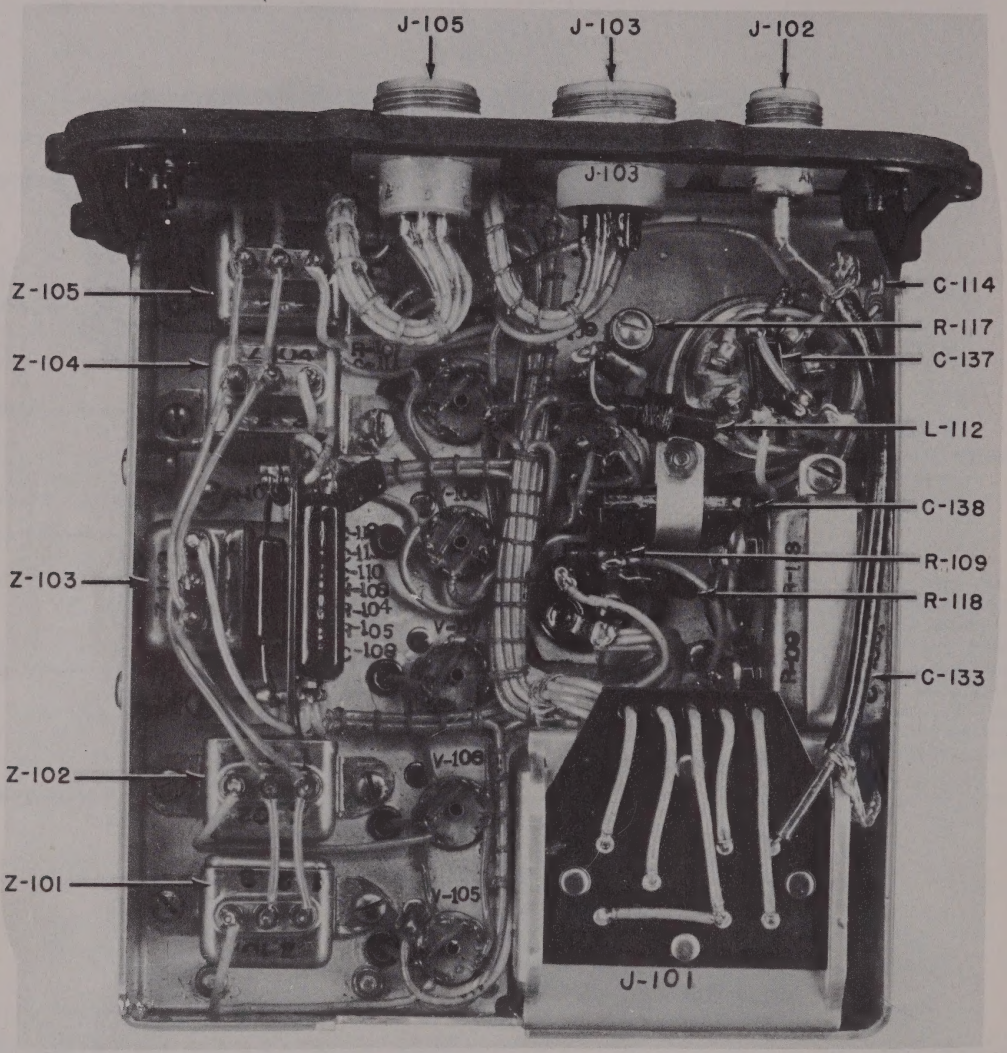


Figure 6-4. Receiver R-196(XA-A)/ARW-26Y, Bottom View with Cover Removed

tension on the relays are capable of being preset to identical values and do not require further adjustment to meet specifications.

10. MONITORING OUTPUT.

A monitoring jack is provided on the battery box. The load of the headset when inserted into this jack, has a negligible effect on operation. If a low-impedance headset, such as Headset HS-33 is used, Headset Adapter MC-385-A will be used in series with the headset. This headset adapter matches the high impedance output of the receiver.

11. POWER SUPPLY REQUIREMENTS.

All of the power required by the receiver is supplied by a 28 v battery-generator system. The high voltage required by tubes V-101, through V-109 is connected from the 28 vdc source by means of a self-rectifying vibrator-transformer system. The power requirements are .750 amp. at 28 volts.

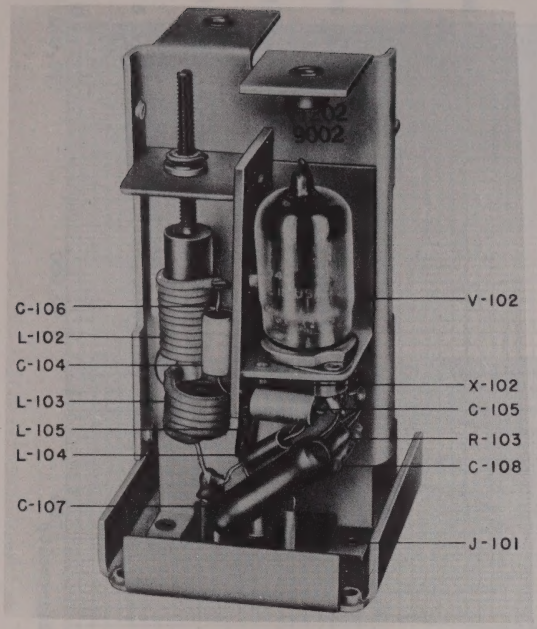


Figure 6-5. Tuning Unit TN-109/ARW-26A, R-F Side with Cover Removed

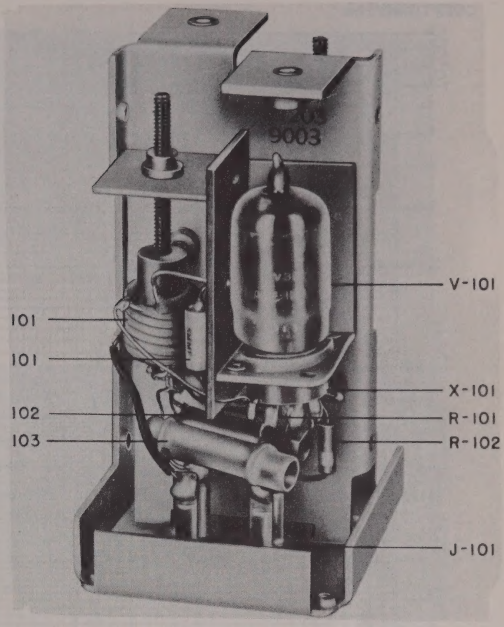


Figure 6-6. Tuning Unit TN-109/ARW-26A, Detector Side with Cover Removed

12. TROPICALIZATION.

This equipment is tropicalized in accordance with Specification JAN T-152.

NOTE

If repairs are made, the repaired sections should be retreated in accordance with the Specification JAN T-152.

13. WATERPROOFING.

R-196(XA-A)/ARW-26Y is constructed in a case made waterproof by placing gaskets around the covers and all openings. This waterproofed equipment is capable of being submerged in sea water to a depth of three feet for periods up to two hours without leaking.

14. TEMPERATURE RANGE.

Service may be obtained from Radio Receiving Set AN/ARW-26(XA-2)Y over a temperature range from -25°C (-13°F) to +70°C (+158°F).

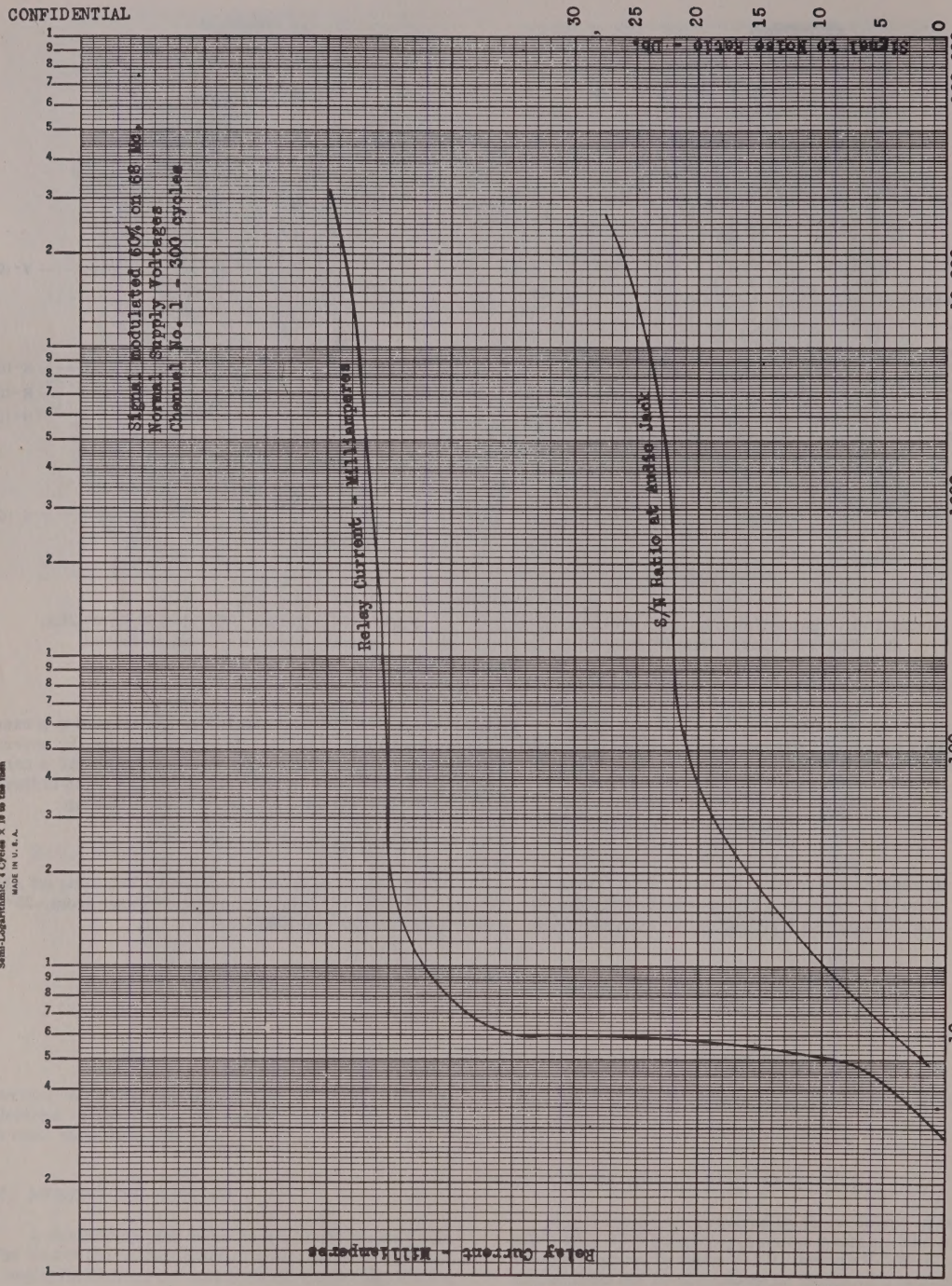

CONFIDENTIAL
Signal Modulated 60% on 68 Kc.
Normal Supply Voltages
Channel No. 1 - 300 cycles
Relay Current - Milliamperes
S/N Ratio at Audio Jack
Input Signal - Microvolts
Signal to Noise Ratio - DB
Relay Current - Milliamperes
KEUFFEL & ESSER CO., N. Y. NO. 359-61
Semi-Logarithmic, 4 Cycles X 10 to the inch
MADE IN U. S. A.

Figure 6-7. Radio Receiving Set AN/ARW-26(XA-2)Y, Sensitivity and Signal to Noise Ratio

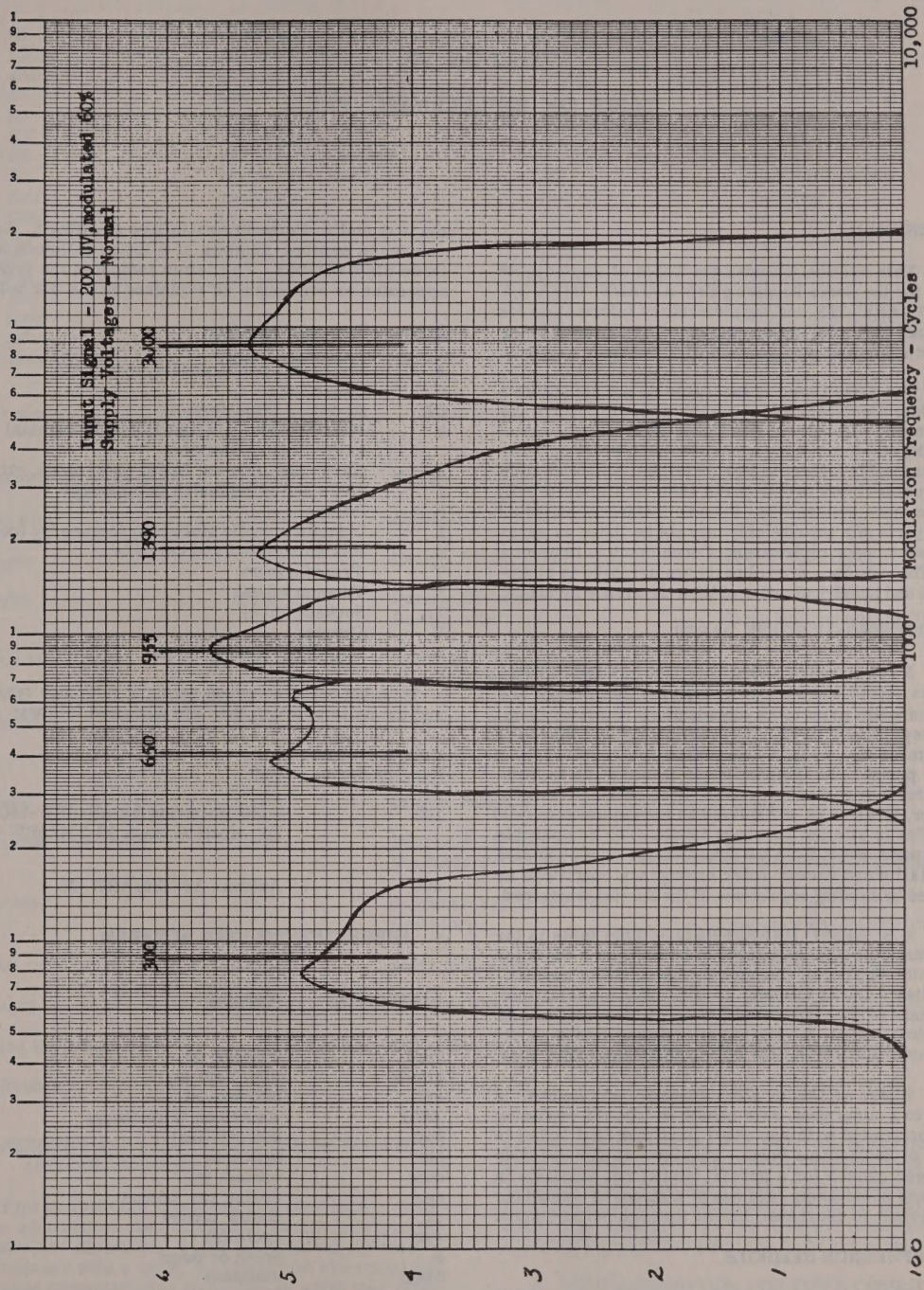


Figure 6-8. Radio Receiving Set AN/ARW-26(XA-2)Y, Relay Current vs Modulation Frequency

SECTION VII

TABLE OF REPLACEMENT PARTS

1. GENERAL.

a. This section includes the Table of Replaceable Parts for the Radio Receiving Sets AN/ARW-26(XA-2)Y and AN/ARW-26Y and supplementary information for reference purposes, such as resistor and capacitor color code charts and explanation of reference symbols.

b. The parts listed in the Table do not constitute a complete electrical and mechanical breakdown of the equipment. However, the Table lists all electrical parts together with such operative mechanical parts as are reasonably subject to loss or failure, with exception of structural and minor parts such as standard bolt, screws, nuts, and the like. In some instances individual detail parts of a subassembly may not be listed as separate items, since replacement of such items is impractical. The reference symbol parts are arranged in alphabetical and numerical order of their reference symbols.

2. ORDERING OF SPARE PARTS.

a. Each Service using this list has established certain depots and service groups for the storage and issue of spare parts to its organizations requiring them. The regulations of each Service should be studied to determine the method and source for requisitioning spare parts. The information in this list, as to manufacturer's or contractor's name, type, model or drawing number, is not to be interpreted as authorization to field agencies to attempt purchase identical or comparable spare parts direct from the manufacturer or a wholesale or retail store except under emergency conditions as covered by existing regulations of the Service concerned.

b. U.S. ARMY PERSONNEL: - This table is for information ONLY and is not to be used as a basis for requisitioning parts. Authorities for obtaining maintenance items are as follows: 1. For using organizations; applicable Service publications of the 00-30 series of AAF Technical Orders. 2. For higher maintenance and supply echelons; the applicable Standard Maintenance List.

c. Where no JAN or Navy standard part number is given to a component, care should be taken in replacing the component with any other part than that listed in Table of Replaceable Parts. This special part probably has been chosen for a special quality not available in standard components, and use of a standard component may result in decreased life or lowered performance.

3. REFERENCE SYMBOLS.

a. The reference symbols appearing in the Table of Replaceable Parts correspond to those used in the text and to those shown in line drawings. Each reference symbol consists of a letter followed by a three digit number. The letter indicates the type of apparatus or component as explained in the list below.

Letter	Type of Apparatus
A	Structural parts, panels, mount etc.
C	Capacitors
CR	Rectifier (vibrator)
E	Miscellaneous electrical parts, terminal strips, tuning unit etc.
H	Hardware, screws, bolts, nuts, studs, etc.
J	Jacks and receptacles (stationary)
K	Relays
L	Inductors, radio and audio frequency, (coils)
R	Resistors fixed and variable
T	Transformers
V	Vacuum tubes
X	Sockets (tube)
Y	Crystal
Z	Impedances, wave traps

b. A list of the numerical series of reference symbols and the units to which they are assigned follows:

Reference Symbol Number Series	Unit
100	Radio Receiving Set AN/ARW-26(XA-2)Y except Antenna AS-234/ARW-26
200	Antenna AS-234/ARW-26

4. ABBREVIATIONS USED IN TABLE.

Abbreviation	Meaning
amp	ampere (s)
amplr	amplifier (s)
ant	antenna (s)
AWG	American Wire Gauge
batt	battery (ies)
bkt	brackets
cont	contact (s)
cps	cycles per second
ct	center tapped
cyc	cycle (s)
d	depth or deep
diam	diameter
dwg	drawing (s)
ea	each

Abbreviation	Meaning	Abbreviation	Meaning
fil	filament	mtd	mounted
fil h	fillister-head	mtg	mounting
gnd	ground (ed)	mtg/c	mounting centers
h	height or high	OD	outside diameter
hd	head	o/a	overall
HV	high voltage	pl	plated
HS	hermetically sealed	p/o	part of
ID	inside diameter (s)	RF	radio frequency
incl	including	rec	receiver
impr	impregnated	sect	section (s)
ins	insulated	spec	specification
lg	length or long	term	terminal (s)
ma	milliampere	thd	thread
mc	megacycle	thk	thick
meg	megohm	UHF	ultra high frequency
mf	microfarad	w/	with
mmf	micromicrofarad	wd	wide or width

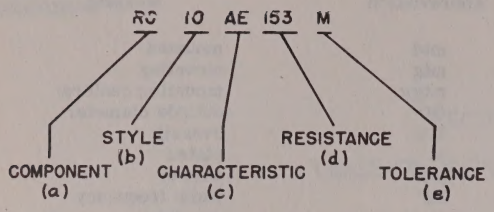
5. LIST OF MANUFACTURERS.

Abbreviation or Code	Prefix	Name	Address
Auto Elec	CAOX	Automatic Electric Co.	Chicago, Illinois
Bangor	--	Bangor Electric Ind.	Bangor, Michigan
Bendix	CZL	Pacific Division Bendix Aviation Corp.	North Hollywood, California
Eaton Mfg Stmpg		Eaton Mfg. Company Stamping Division	Detroit, Michigan
Micamold	CMR	Micamold Radio Corp.	Brooklyn, New York
Oak	COC	Oak Mfg. Co.	Chicago, Illinois
Ohmite	COM	Ohmite Mfg. Co.	Chicago, Illinois
Peerless Elec Prod	CPU	Peerless Electrical Products Co.	Los Angeles, California
Schrader	--	Schrader Electronic and Coil Corp.	Los Angeles, California
Solar	CSL	Solar Mfg. Corp.	New York, New York
Sprague	CSF	Sprague Electric Co.	North Adams, Massachusetts
United Refr. Co.	--	United Refrigerator Co.	St. Paul, Minnesota
US Rubber	CBAK	U.S. Rubber Co.	New York, New York

6. RESISTOR AND CAPACITOR TYPE DESIGNATIONS AND COLOR CODES.

Type designations consisting of a combination of letters and numbers are employed to identify JAN type resistors and capacitors. These designations indicate, in accordance with a code, the important electrical and physical characteristics of the part to which they refer. Where space limitations do not permit the type designations to be marked on the part, colored bands or dots are used to indicate its electrical characteristics in accordance with a standard code. Explanations of the standard color codes and of the type designations for fixed composition resistors per JAN-R-11, fixed mica-dielectric capacitors per JAN-C-5 and fixed ceramic-dielectric capacitors per JAN-C-20 are given below.

a. TYPE DESIGNATION FOR FIXED COMPOSITION RESISTORS PER JAN-R-11. - The type designation of fixed composition resistors is formed as follows:



(1) COMPONENT. - Fixed composition resistors covered by this specification are identified by the letters "RC" as the first two symbols of the type designation. "R" stands for resistor and "C" distinguishes the subclass of composition resistors.

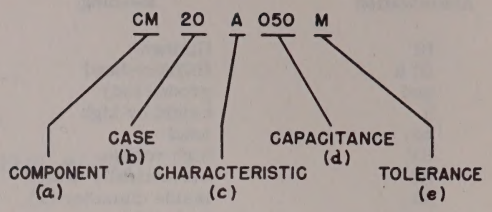
(2) STYLE. - The style is indicated by a two-digit symbol which identifies the power rating, physical shape, and size of the resistor.

(3) CHARACTERISTICS. - A two-letter symbol gives the characteristics of fixed composition resistors. The first letter denotes whether the element is insulated and its moisture resistance. The second letter denotes the resistance-temperature characteristic.

(4) RESISTANCE. - The nominal resistance value in ohms is indicated by a three-digit symbol. The first two digits are the first two figures of the resistance value in ohms. The final digit specifies the number of zeros which follow the first two figures.

(5) RESISTANCE TOLERANCE. - The symmetrical resistance tolerance in percent is denoted by a letter.

b. TYPE DESIGNATION FOR FIXED MICA-DIELECTRIC CAPACITORS PER JAN-C-5. - The type designation of fixed mica-dielectric capacitors is formed as follows:



(1) COMPONENT. - All fixed mica-dielectric capacitors covered by this specification are identified by the letters "CM" as the first two symbols of the type designation.

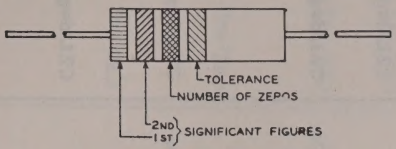
(2) CASE. - The case designation is a two-digit symbol which identifies a particular case, size and shape.

(3) CHARACTERISTIC. - The characteristic properties of a capacitor in respect to temperature coefficient and maximum capacitance drift are indicated by a single letter. For limiting values of Q (figure of merit) and of the dissipation factor for capacitors having different characteristic letters and different values of capacitance, Joint Army-Navy Specification JAN-C-5 should be consulted.

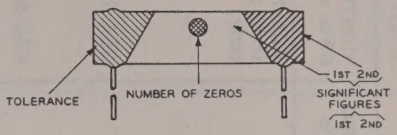
(4) CAPACITANCE. - The nominal capacitance value in micromicrofarads is indicated by a three-digit number. The first two digits are the first two digits of the capacitance value in micromicrofarads. The final digit specifies the number of zeros which follow the first two digits. If more than two significant figures are required, additional digits may be used, the last digit always indicating the number of zeros.

(5) CAPACITANCE TOLERANCE. - The symmetrical capacitance tolerances in percent shall be designated by a letter.

COLOR CODE FOR FIXED RESISTORS—VALUES IN OHMS



Resistor with axial wire leads.



Resistor with radial wire leads.

BODY		END		DOT OR BAND		END	
1st Band		2nd Band		3rd Band		End Band	
Color	Value	Color	Value	Color	Value	Color	Tolerance
Black	0	Black	0	Black	None	Gold	± 5%
Brown	1	Brown	1	Brown	0	Silver	±10%
Red	2	Red	2	Red	00	None	±20%
Orange	3	Orange	3	Orange	000		
Yellow	4	Yellow	4	Yellow	0000		
Green	5	Green	5	Green	00000		
Blue	6	Blue	6	Blue	000000		
Violet	7	Violet	7	Violet	0000000		
Grey	8	Grey	8	Grey	00000000		
White	9	White	9	White	000000000		

EXAMPLE FOR AXIAL-LEAD RESISTOR

Band	Color	Significant Figures		Number of Zeros	Tolerance
		1st	2nd		
1	red	2	...	...	...
2	orange	...	3	...	...
3	yellow	...	...	0000	...
4	gold	...	...	...	±5%

The resistance of this resistor is 230,000 ohms ±5%.

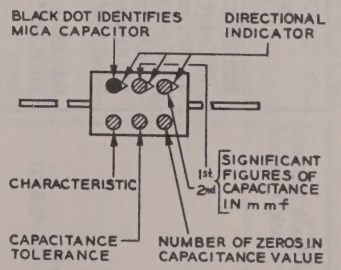
EXAMPLE FOR RADIAL-LEAD RESISTOR

Position	Color	Significant Figures		Number of Zeros	Tolerance
		1st	2nd		
body	orange	3	...	...	...
end	blue	...	6	...	...
dot	green	...	...	00000	...
end	silver	...	...	...	±10%

The resistance of this resistor is 3,600,000 ohms ±10%

COLOR CODE FOR JAN FIXED MICA CAPACITORS

Color	CAPACITANCE		Tolerance	Characteristic
	Significant Figure	Decimal Multiplier		
Black	0	1	20 per cent (M)	A
Brown	1	10	.....	B
Red	2	100	2 per cent (G)	C
Orange	3	1,000	.....	D
Yellow	4	...	.....	E
Green	5	...	.....	F
Blue	6	...	.....	G
Violet	7	...	.....	...
Gray	8	...	.....	...
White	9	...	.....	...
Gold	...	0.1	5 per cent (J)	...
Silver	...	0.01	10 per cent (K)	...



Color code scheme for JAN standard fixed mica capacitors. The significance of the letters denoting "characteristic" will be found in the Joint Army-Navy Specification JAN-C-5.

TABLE 7-1. TABLE OF REPLACEABLE PARTS

MODEL: RADIO RECEIVING SET AN/ARW-26(XA-2)Y MAJOR ASSEMBLY: RADIO RECEIVER-SELECTOR R-196(XA-A)/ARW-26Y

Reference Symbol	Army Stock Number Navy Stock Number	NAME OF PART and DESCRIPTION	FUNCTION	MFR and DESIG. or AWS TYPE	CONTR or GOV'T. DWG. or SPEC. No.
101-199		RECEIVER, radio: Army-Navy R-196(XA-A)/ARW-26Y; for control of target aircraft; 60 to 74 mc; 28 vdc; mtd in aluminum cabinet; 5-11/16" h x 8-5/16" wd x 7-5/8" d overall; 9-tube super-regenerative circuit; includes Army type Tuning Unit TN/55 (Army-Navy type Tuning Unit TN-109/ARW-26A), and Sig C Mounting FT-441-B	Reception of remote control signals		CZL dwgs 454779 (rec) and 406443 (mtg)
A-101	-- R16-BX-406721	GASKET: receiver cabinet; neoprene; rectangular 0.151" wd x 0.135" d x 23" lg overall	Hermetically seals receiver watertight		CZL dwg 406721
A-102	-- R16-BX-406462	GASKET: neoprene; single hole; circular, 1-1/4" OD x 1" ID x 1/16" thk; cellophane finish	Hermetically seals receiver watertight		CZL dwg 406462
A-103	-- R16-BX-406437	GASKET: neoprene; single hole; circular, 1-1/8" OD x 7/8" ID x 1/16" thk; cellophane finish	Hermetically seals receiver watertight		CZL dwg 406437
A-104	-- R16-BX-406438	WASHER, flat: neoprene, cellophane finish; round, 5/8" ID x 7/8" OD x 1/16" thk	Makes watertight		CZL dwg 406438
A-105	-- R16-BX-406439	DEHYDRATOR: chemical type; silica-gel; -10°F initial dew point and -20°F dew point after 30 minutes operation; cartridge; clear plastic; 4-3/4" lg x 1-1/8" OD o/a; 0.14 lb; indicates "safe" or "unsafe"; tap #10-24NC2 thd at one end, mts by single #10 scr	Dehydrating agent	United Refr. Co. WT-37A	CZL dwg 406439
A-106	2Z8501-5 R42-I-392	MOUNT, vibration: square miniature; 2.8 lb shear and 4.4 lb compression load rating; rubber cushion, 23/64" square x 3/8" lg; 2 steel studs 3/8" lg w/8-32NC2 thd; mts by single #8 scr	Holds rec to aircraft	CBAK A321 or B321	CZL dwg 406446
A-107		CABINET: radio rec; sheet aluminum, black wrinkle finish; empty; 5-5/8" h x 8-5/16" wd x 6-13/16" d overall; single compartment, w/1 interior bkt; 1 Z-bkt and 1 U-bkt on 2 sides for mtg; p/o Army-Navy Receiver R-196(XA-A)/ARW-26Y; complete w/gasket R16-BX-406721, and snap-slide fasteners	Houses rec		CZL dwg 406978

A-108		PANEL: p/o Army-Navy Receiver R-196(XA-A)/ ARW-26Y; consists of cover plate, 2 bkts, and 4 pads for bkts; sheet aluminum, black wrinkle finish; rectangular; 7-9/16" lg x 5-5/8" wd x 4-5/8" h overall; 8 mtg holes 0.187" to 0.198" diam on 2.780" centers	Front cover for rec		CZL dwg 454786
A-109	-- R16-C-4794-600	CAP: p/o Army-Navy Receiver R-196(XA-A)/ ARW-26Y; consists of knurled cap, gasket, and bead chain; aluminum alloy; cap 3/8-32 NEF2 thd	Cover for tuning hole		CZL dwg 406548
A-110	-- R16-BX-406463	WASHER, flat: neoprene, cellophane finish; round, 3/8" ID x 9/16" OD x 1/64" thk	Makes water-tight		CZL dwg 406463
A-111	-- R17-BX-406464	GASKET: neoprene, cellophane finish; round, 3/8" dia x 1/16" thk	Makes water-tight		CZL dwg 406464
A-112	-- R16-B-15003	BUSHING: brass, nickel plated; male; 3/8-32 NE F2 thd; 15/32" lg x 9/16" shoulder diam, hex head; center hole 1/4" diam	Receives cap A-109		CZL dwg 407081
C-101		CAPACITOR, fixed: ceramic, insulated 5 mmf ±0.25 mmf; 500 vdcw; (p/o E-101)			
C-102		CAPACITOR, fixed: ceramic; non-insulated; 500 mmf ±10%; 500 vdcw; (p/o E-101)			
C-103		(Same as C-102) (p/o E-101)			
C-104		(Same as C-101) (p/o E-101)			
C-105		(Same as C-101) (p/o E-101)			
C-106		CAPACITOR, fixed: ceramic; non-insulated; 50 mmf ±10%; 500 vdcw; (p/o E-101)			
C-107		(Same as C-102) (p/o E-101)			
C-108		CAPACITOR, fixed; ceramic; insulated; 105 mmf ±10%; 500 vdcw; (p/o E-101)			
C-109	3DKA200-8 R16-C-11337-48	CAPACITOR, fixed: paper; 200,000 mmf ±20%; 200 vdcw; molded composition case; 1-7/16" lg x 3/4" thk; two #20 gage pigtails ea 2" lg; less mtg bkt	1st audio screen by-pass	CMR #345	AWS Spec C75/221

TABLE 7-1. TABLE OF REPLACEABLE PARTS

MODEL: RADIO RECEIVING SET AN/ARW-26(XA-2)Y MAJOR ASSEMBLY: RADIO RECEIVER-SELECTOR R-196(XA-A)/ARW-26Y

Reference Symbol	Army Stock Number Navy Stock Number	NAME OF PART and DESCRIPTION	FUNCTION	MFR and DESIG. or AWS TYPE	CONTR or GOV'T. DWG. or SPEC. No.
C-110	-- R16-C-10430-15	CAPACITOR, fixed: mica; 5100 mmf ±5%; 500 vdcw	1st audio to 2nd audio coupling	JAN type CM35C-512J	JAN spec JAN-C-5
C-111	3D9100-68 R16-C-9924-59	CAPACITOR, fixed: mica; 100 mmf ±10%; 500 vdcw	Grid bypass	JAN type CM20A-101K	JAN spec JAN-C-5
C-112	-- R16-C-10240-75	CAPACITOR, fixed: mica; 2000 mmf ±5%; 500 vdcw	Plate bypass	JAN type CM30C-202J	JAN spec JAN-C-5
C-113	-- R16-C-9924-59	(Same as C-111)	Plate bypass		
C-114	-- R16-C-11255-26-998	CAPACITOR, fixed: oil impr; 10,000 mmf -10 +30%; 1600 vdcw; -55 +85°C; metal case HS; 1-1/16" lg x 7/8" wd x 1/4" thk; two wire leads one side #20 AWG wire leads 2-1/8" lg	Vibrator buffer	CSF LR-11	
C-122	3DB20-84 R16-C-9678-30	CAPACITOR, fixed: electrolytic; 2 sect; 20-20 mf 250 vdcw; oper temp range -40°C to +85°C; 1-11/16" diam x 3-1/4" h o/a; round metal case HS w/insulating tube; 3 solder lug term on top scr mtd	H-V fil	JAN type CE42C-200M	JAN spec JAN-C-62
C-128	-- R16-C-11337-48	(Same as C-109)	300-cyc relay by-pass		
C-129	-- R16-C-11337-48	(Same as C-109)	650-cyc relay by-pass		
C-130	-- R16-C-11337-48	(Same as C-109)	1390-cyc relay by-pass		
C-131	-- R16-C-11337-48	(Same as C-109)	3000-cyc relay by-pass		
C-132	-- R16-C-11337-48	(Same as C-109)	955-cyc relay by-pass		

C-133	3DB15-34 R16-C-9671-2	CAPACITOR, fixed: electrolytic; 15 mf 100 vdcw; oper temp range 0°C to +185°C 1-1/2" lg x 1" wd x 1-1/4" h o/a; metal case HS; 2 solder lug term on top; 2 mtg ears, 2-1/4" mtg/c	Time delay for K-105	CSL LDXDT-15-100	
C-134	-- R16-C-11337-48	(Same as C-109)	Bias bypass		
C-135	-- R16-C-11255-68-50	CAPACITOR, fixed: oil impr; 20,000 mmf; -10 +30%; 1600 vdcw; metal can HS; 1-1/16" lg x 7/8" wd x 1/4" thk; two wire leads one side #20 AWG 2-1/8" lg	Vibrator buffer	CSF LR-12	
C-136	-- R16-C-10083-35	CAPACITOR, fixed: mica; 1000 mmf ±5%; 500 vdcw	Monitor phone coupling	JAN type CM30C-102J	JAN spec JAN-C-5
C-137	-- R16-C-9924-59	(Same as C-111)	Low voltage r-f bypass		
C-138	3DA100167.1 R16-C-11308-12	CAPACITOR, fixed: paper; 0.1 mf ±20%; 400 vdcw sgl sect; molded composition; 1-7/16" lg x 3/4" wd x 3/8" thk; two #20 AWG wire leads 1-1/2" lg	Low voltage hash filter bypass	CMR 345-122	
CR-101	-- R16-OAK-6874	VIBRATOR: synchronous; input 24 vdc at 1.7 amp; split reed; reed frequency 95 cps, tolerance 5 cps; 7 round polarized male cont; hermetically sealed w/rubber base; 1-1/2" diam x 3-1/2" lg overall including prongs	Converts dc to ac	COC V-6874	
E-101	2CK8055 R16-AN-TN-109/ARW-26A	TUNING UNIT, RF: Army-Navy type TN-109/ARW-26A; plug-in unit comprising r-f amplifier and detector stages; consists of a rectangular aluminum alloy can 4-3/16" lg x 2-5/8" wd x 2-3/16" thk overall containing 8 fixed capacitors, 5 coils, 1 connector, 3 resistors, 2 adjustable tuning cores, 2 tubes, and 2 sockets; 60 to 74 mc; 7 sockets. (Includes Ref. C-101 through C-108, L-101 through L-105, J-101, R-101, R-102, R-103, V-101, V-102, X-101, and X-102.)	Plug in RF amplr and detector stages	Bangor	CZL dwg 452043
E-102	-- R16-S-3934	SHIELD, tube: miniature ; used w/7-pin button-base socket	6AK6 tube insul	JAN type SOS6	JAN spec JAN-S-28

TABLE 7-1. TABLE OF REPLACEABLE PARTS

MODEL: RADIO RECEIVING SET AN/ARW-26(XA-2)Y MAJOR ASSEMBLY: RADIO RECEIVER-SELECTOR R-196(XA-A)/ARW-26Y

Reference Symbol	Army Stock Number Navy Stock Number	NAME OF PART and DESCRIPTION	FUNCTION	MFR and DESIG. or AWS TYPE	CONTR or GOV'T. DWG. or SPEC. No.
E-103		BOARD, terminal: c/o ten brass SAE 72-1/2 H cad pl term, four short thru type 0.105" lg x 1/16" diam; and 6 term 0.105" lg x 1/16" diam; board, phenolic sheet 2-1/8" lg x 2" wd x 1/16" thk.	Mtg for resistors and capacitors		CZL dwg 454805-2
E-104	-- R17-S-16565	WIRE BRAID: tinned copper; 2" lg x 3/8" wd; two 5/32" holes on 1-9/16" centers	Gnd connection across rubber vibrator mtg		Sig C dwg SC-D-5853-E, detail 8 CZL dwg #406445
H-101	-- R17-N-1034-5	NUT, hexagon: aluminum alloy; 5/8-24 NEF thd; 1/8" thk; 13/16" wd across flats	Locks J-102 and J-104	AN type AN3066-4	AN dwg AN3066
H-102	-- R17-N-988-23	NUT, hexagon: aluminum; 7/8-20 NEF3 thd; 1/8" thk; 1-1/16" wd across flats	Locks J-105	AN type AN3066-8 reduced to 1/8" thk	AN dwg AN3066 CZL dwg 406441
H-103	-- R17-N-988-33	NUT, hexagon: aluminum alloy; 1-20 NEF3 thd; 1/8" thk; 1-1/4" wd across flats	Locks J-103	AN type AN3066-10 reduced to 1/8" thk	AN dwg AN3066 CZL dwg 406440
H-104	-- R16-BX-406467	STUD: brass, cadmium pl; 1/2" lg x 3/8" diam overall; one end w/female thd 3/8" lg x 8-32 NC2; other end slot drive	Holds rec to mtg		CZL dwg 406467 Sig C Dwg SC-D-5853-E
H-105	-- R16-N-2031	NUT, hexagon: brass, nickel pl; 3/8-32 NEF thd; 3/32" thk; 1/2" wd across flats; Mallory type 232	Holds bushing A-112		CZL dwg 407082
H-106	-- R16-L-5049	LINK, chain: steel, cadmium pl; pear-shaped; 3/8" lg x 1/2" wd x 0.015" thk overall; 0.380" dia hole, w/ slot ; not thd	Holds end of bead chain		CZL dwg 406549
H-107		SCREW, machine: slot drive; fil-hd binding; SAE 1010 steel, cad pl; 8-32 NC2 thd; 5/8" lg, 1/2" diam head; flange dimen 0.270" max OD x 0.156" lg o/a incl slotted portion	Holds panel to cabinet		CZL dwg 406637

J-101	-- R16-BX-406428	CONNECTOR, male contact: 7 round male contacts, silver pl, polarized, Jones HB tube prong type #98; straight; 2-5/32" lg x 2-1/4" wd x 9/16" d including cont; cont mtd on wafer board black paper base phenolic	Connects tuning unit E-101 to set		CZL dwg 406428
J-102	2Z3Q21-24 R16-PDI-406969	CONNECTOR, male contact: one round male cont, box mtg; pressurized per spec AN WC-591; modified by extending thd to within 1/32 from mtg flange; cable opening 5/8" diam	Connects Cord CG-312/ARW-26 to ant	AN type AN3102-PR-10S-2P modified	AN dwg AN-WC-591 CZL dwg 406969
J-103	2Z7117-11 R16-PDI-406938	CONNECTOR, male contact: 7 round male cont; box mtg; pressurized, per spec AN WC-591; modified by extending thd to within 1/32" from mtg flange; cable opening 7/8" diam	Connects Cord CX-662/ARW-26 to batt	AN type AN3102 PR-16S-1P-181 modified	AN dwg AN-WC-591 CZL dwg 406938
J-104	2Z7112-27 R16-PDI-406968	CONNECTOR, male contact: 2 round male cont; box mtg; pressurized per Spec AN WC-591; modified by extending thd to within 1/32" from mtg flange; cable opening 5/8" diam	Connects Cord CX-664/ARW-26 to parachute solenoid	AN type AN3102 PR-10SL-4P-181 modified	AN dwg AN-WC-591 CZL dwg 406968
J-105	2Z7116-40 R16-PDI-406967	CONNECTOR, male contact: 6 round male cont; box mtg; pressurized per Spec AN WC-591; modified by extending thd to within 1/32" from mtg flange; cable opening 3/4" diam	Connects Cord CX-661/ARW-26 to servo	AN type AN3102 PR-14S-6P modified	AN dwg AN-WC-591 CZL dwg 406967
K-101	-- R16-R-5135	(P/o K-106)		CAOX R45-B	
K-102	-- R16-R-5135	(P/o K-106)		CAOX R45-B	
K-103	-- R16-R-5135	(P/o K-106)		CAOX R45-B	
K-104	-- R16-R-5135	(P/o K-106)		CAOX R45-B	
K-105	-- R16-R-5135	(P/o K-106)		CAOX R45-B	

TABLE 7-1. TABLE OF REPLACEABLE PARTS

MODEL: RADIO RECEIVING SET AN/ARW-26(XA-2)Y MAJOR ASSEMBLY: RADIO RECEIVER-SELECTOR R-196(XA-A)/ARW-26Y

Reference Symbol	Army Stock Number Navy Stock Number	NAME OF PART and DESCRIPTION	FUNCTION	MFR and DESIG. or AWS TYPE	CONTR or GOV'T DWG. or SPEC. No.
K-106		RELAY ASSEMBLY: p/o Army-Navy Receiver R-196(XA-A)/ARW-26Y; aluminum alloy bkt mtg 5 relays, ea conforming to Navaer Spec M-694 and Sig C spec SC-71-854, Auto Elec type R45-B, coil resistance 10,000 ohms ±10%, operating on 2.5 ma coil current; 6-1/2" lg x 1-15/16" h x 2-19/32" d overall; includes JAN type RC21AF153J fixed resistor, composition, 15000 ohms +5%, 1/2 watt; (includes Ref K-101 through K-105 and R-116)	Control relays on mtg	CAOX R45-B	CZL dwg 466910
L-101		(p/o E-101)			
L-102		(p/o E-101)			
L-103		(p/o E-101)			
L-104		(p/o E-101)			
L-105		(Same as L-104) (p/o E-101)			
L-111		(p/o E-101)			
L-112		(p/o E-101)			
L-113	-- R16-C-27562-675	COIL, R-F CHOKE: inductance 7.6 uh; current drain 1 amp at 24 vdc; resistance 0.2 ohm; universal wound, 50 turns #28 double silk covered wire; finish coat Amphenol #912; core 1/4" OD x 13/16" lg; pigtail leads ea end 1-7/16" lg; 7/16" diam x 3-9/16" lg overall including leads	Filters low voltage hash		CZL dwg 454811
R-101		RESISTOR, fixed: composition; 250 ohm ±10%; 1/2 watt; (p/o E-101)			
R-102		RESISTOR, fixed: composition; 25,000 ohm ±10%; 1/2 watt; (p/o E-101)			
R-103		(Same as R-102) (p/o E-101)			

R-104	-- R16-R-17303-201	RESISTOR, fixed: composition; 8200 ohms ±10%; 1/2 watt	Plate voltage dropping in tuning unit	RC20AF822K	JAN spec JAN-R-11
R-105	-- R16-R-17400-305	RESISTOR, fixed: composition; 2.2 meg ±10%; 1/4 watt	1st audio screen dropping	JAN type RC10 AF-225K	JAN spec JAN-R-11
R-106	-- R16-R-17344-178-510	RESISTOR, fixed: composition; 100,000 ohms ±10%; 1/4 watt	Part of first audio plate load	JAN type RC10 AF-104K	JAN spec JAN-R-11
R-107	-- R16-R-17464	RESISTOR, fixed: composition; 4 meg ±10%; 1/4 watt	2nd audio grid return	JAN type RC10-AF-405K	JAN spec JAN-R-11
R-108	-- R16-R-17318-105	RESISTOR, fixed: composition; 27,000 ohms ±10%; 1/4 watt	2nd audio plate load	JAN type RC10 AF-273K	JAN spec JAN-R-11
R-109	-- R16-R-17281-135-750	RESISTOR, fixed: composition; 4700 ohms ±10%; 1/4 watt	HV isolating	JAN type RC10 AF-472K	JAN spec JAN-R-11
R-110	R16-R-17331-5	RESISTOR, fixed: composition; 47,000 ohms ±10%; 1/4 watt	300 cyc grid limiting	JAN type RC10 AF-473K	JAN spec JAN-R-11
R-111	-- R16-R-17331-5	(Same as R-110)	650 cyc grid limiting		
R-112	-- R16-R-17331-5	(Same as R-110)	1390 cyc grid limiting		
R-113	-- R16-R-17331-5	(Same as R-110)	3000 cyc grid limiting		
R-114	-- R16-R-17331-5	(Same as R-110)	955 cyc grid limiting		
R-115	-- R16-R-17371-125	RESISTOR, fixed: composition; 1 meg; ±10%; 1/4 watt	Grid return for relay tubes	JAN type RC10 AF-105K	JAN spec JAN-R-11
R-116		RESISTOR, fixed: composition; 15,000 ohm ±5%; 1/2 watt; (p/o K-106)			

TABLE 7-1. TABLE OF REPLACEABLE PARTS

MODEL: RADIO RECEIVING SET AN/ARW-26(XA-2)Y MAJOR ASSEMBLY: RADIO RECEIVER-SELECTOR R-196(XA-A)/ARW-26Y

Reference Symbol	Army Stock Number Navy Stock Number	NAME OF PART and DESCRIPTION	FUNCTION	MFR and DESIG. or AWS TYPE	CONTR or GOV'T. DWG. or SPEC. No.
R-117	-- R16-R-6917	RESISTOR, fixed: WW; vitreous enamel; 15 ohms ±10%; 10 watt; 1-3/4" lg x 5/16" OD; two #18 B&S tinned copper wire leads 1-1/8" lg	Fil dropping	COM type BROLO	
R-118	-- R16-R-17263-60	RESISTOR, fixed: composition; 510 ohms ±10%; 1/4 watt	Hv fil	RC10AF510K	JAN spec JAN-R-11
R-119	R16-R-17344-178-510	(Same as R-106)	P/o first audio plate load		
T-101	R16-T-6907-975	TRANSFORMER, power: vibrator; input 24 vdc at 500 ma; output 244 vac CT at 15 ma; 115 cyc output; HS in tin-dipped steel rectangular case; case and base excluding term 1-13/32" wd x 1-13/32 lg x 2-7/32" h; six Cincinnati #606 or equal soldering lug term on bottom	Supply high voltage	CPU part #13061	CZL dwg 454793
V-101	-- 16-T-79003	TUBE, electron: midget remote cutoff pentode; uhf (p/o E-101)	R-f amplr in tuning unit E-101	JAN-9003	JAN spec JAN-1A
V-102	-- 16-T-79002	TUBE, electron: midget remote triode; uhf (p/o E-101)	Detector in tuning unit E-101	JAN-9002	JAN spec JAN-1A
V-103	-- 16-T-56192	TUBE, electron: miniature pentode	1st audio amplr	JAN type JAN-6AK6	JAN spec JAN-1A
V-104	-- 16-T-56192	(Same as V-103)	2nd audio amplr		
V-105	-- 16-T-56192	(Same as V-103)	300 cyc relay control		
V-106	-- 16-T-56192	(Same as V-103)	650 cyc relay control		

V-107	-- 16-T-56192	(Same as V-103)	1390 cyc relay control		
V-108	-- 16-T-56192	(Same as V-103)	3000 cyc relay control		
V-109	-- 16-T-56192	(Same as V-103)	955 cyc relay control		
X-101		(p/o E-101)			
X-102		(Same as X-101) (p/o E-101)			
X-103	2Z8677.95 R16-S-6184-20	SOCKET, tube: miniature socket, 7 beryllium copper silver pl cont; steel shell w/ ceramic body; 1-9/32" lg x 0.805" dia overall; (two 1/8" dia mtg holes on 7/8" mtg/c; p/o Army-Navy Receiving Set AN/CRW-7); Delco part/dwg 7253819	Socket for V-103	JAN type S010C	JAN spec JAN-S-28
X-104	2Z8677.95 R16-S-6184-20	(Same as X-103)	Socket for V-104		
X-105	2Z8677.95 R16-S-6184-20	(Same as X-103)	Socket for V-105		
X-106	2Z8677.95 R16-S-6184-20	(Same as X-103)	Socket for V-106		
X-107	2Z8677.95 R16-S-6184-20	(Same as X-103)	Socket for V-107		
X-108	2Z8677.95 R16-S-6184-20	(Same as X-103)	Socket for V-108		
X-109	2Z8677.95 R16-S-6184-20	(Same as X-103)	Socket for V-109		
Z-101	3Z1892-23 R16-BX-406429	SUB-ASSEMBLY: audio filter; HS capacitor, and resistor; rectangular can w/2 mtg bkts; two 5/32" diam holes on 1.687" mtg/c; 2-1/16" wd x 7/8" thk x 1-5/8" h overall excluding wire leads; figures 406429 and Z101 stamped on can; (includes Ref C-123, L-106, and R-110)	Selects 300 cyc tone	Schrader	CZL dwg 406429

TABLE 7-1. TABLE OF REPLACEABLE PARTS

MODEL: RADIO RECEIVING SET AN/ARW-26(XA-2)Y MAJOR ASSEMBLY: RADIO RECEIVER-SELECTOR R-196(XA-A)/ARW-26Y

Reference Symbol	Army Stock Number Navy Stock Number	NAME OF PART and DESCRIPTION	FUNCTION	MFR and DESIG. or AWS TYPE	CONTR or GOV'T. DWG. or SPEC. No.
Z-102	3Z1892-23.1 R16-BX-406430	SUB-ASSEMBLY: audio filter; HS assem of audio reactor, capacitor, and resistor; rectangular can w/2 mtg bkts; two 5/32" diam holes on 1.687" mtg/c; 2-1/16" wd x 7/8" thk x 1-5/8" h overall excluding wire leads, figures 406430 and Z102 stamped on can; (includes Ref C-124, L-107, and R-111)	Selects 650 cyc tone	Schrader	CZL dwg 406430
Z-103	3Z1892-23.2 R16-BX-406431	SUB-ASSEMBLY: audio filter; HS assem of audio reactor, capacitor, and resistor; rectangular can w/2 mtg bkt; two 5/32" dia holes on 1.687" mtg/c; 2-1/16" wd x 7/8" thk x 1-5/8" overall excluding wire leads; figures 406431 and Z103 stamped on can; (includes Ref C-125, L-108, and R-112)	Selects 1390 cyc tone	Schrader	CZL dwg 406431
Z-104	3Z1892-23.3 R16-BX-406432	SUB-ASSEMBLY: audio filter; HS assem of audio reactor, capacitor, and resistor; rectangular can w/2 mtg bkt; two 5/32" dia holes on 1.687" mtg/c; 2-1/16" wd x 7/8" thk x 1-5/8" h overall excluding wire leads; figures 406432 and Z104 stamped on can; (includes C-126, L-109, and R-113)	Selects 3000 cyc tone	Schrader	CZL dwg 406432
Z-105	3Z1892-23.4 R16-BX-406433	SUB-ASSEMBLY: audio filter; HS assem of audio reactor, capacitor, and resistor; rectangular can w/2 mtg bkt; two 5/32" dia holes on 1.687" mtg/c; 2-1/16" wd x 7/8" thk x 1-5/8" h overall excluding wire leads; figures 406433 and Z105 stamped on can; (includes Ref C-127, L-110, and R-114)	Selects 955 cyc tone	Schrader	CZL dwg 406433
201-299 series	-- R16-AN-AS-234/ ARW-26	ANTENNA: Army-Navy Antenna Assembly AS-234/ARW-26; whip type; receiving; aluminum alloy rod; one piece, assembly consists of an aluminum rod, Bendix part/dwg 406451, a bushing, Bendix part/dwg 454851, together w/a washer, flat, 1/16" thk, 1" OD x 0.505" ID; headless cad pl steel set screw - cup point 1/4-20, 1/4" lg class 2 thd; alum alloy sleeve 0.431" diam one end, 0.359" diam other end, 1-1/16" lg; and a packing and mtg nut, knurled, 1/2-20 NF-3 thd 3/8" h o/a; 12-9/16" lg x 1" diam o/a; 1-3/4" lg bushing tapped 4-36 NS2 thd 3/8" d for mtg	Antenna w/mtg		CZL dwg 454849

TABLE 7-2. TABLE OF REPLACEABLE PARTS

MODEL: RADIO RECEIVING SET AN/ ARW-26Y

MAJOR ASSEMBLY: RADIO RECEIVER-SELECTOR R-196/ARW-26Y

Reference Symbol	Army Stock Number Navy Stock Number	NAME OF PART and DESCRIPTION	FUNCTION	MFR and DESIG. or AWS TYPE	CONTR or GOV'T. DWG. or SPEC. No.
101-199		RECEIVER, radio: Army-Navy R-196/ARW -26Y; for control of target aircraft; 60 to 74 mc; 28 vdc; mtd in aluminum cabinet; 5-11/16" h x 8-5/16" wd x 7-5/8" d overall; 9-tube super-regenerative circuit; includes Army type Tuning Unit TN/55 (Army-Navy type Tuning Unit TN-109/ARW-26A), and Sig C Mounting FT-441-B	Reception of remote control signals		RDP dwg 15993 (rec) and CZL dwg 406443 (mtg)
A-101	-- R16-BX-406721	GASKET: receiver cabinet; neoprene; rectangular 0.151" wd x 0.135" d x 23" lg overall	Hermetically seals receiver		CZL dwg 406721
A-102	-- R16-BX-406462	GASKET: neoprene; single hole; circular, 1-1/4" OD x 1" ID x 1/16" thk; cellophane	Hermetically seals receiver		CZL dwg 406462
A-103	-- R16-BX-406437	GASKET: neoprene; single hole; circular, 1-1/8" OD x 7/8" ID x 1/16" thk; cellophane finish	Hermetically seals receiver		CZL dwg 406437
A-104	-- R16-BX-406438	WASHER, flat: neoprene, cellophane finish; round, 5/8" ID x 7/8" OD x 1/16" thk	Makes water-tight		CZL dwg 406438
A-105	-- R16-BX-406439	DEHYDRATOR: chemical type; silica-gel; -10°F initial dew point and -20° F dew point after 30 minutes operation; cartridge; clear plastic; 4-3/4" lg x 1-1/8" OD o/a; 0.14 lb; indicates "safe" or "unsafe"; tap #10-24NC2 thd at one end, mts by single #10 scr	Dehydrating agent	United Refr. Co. WT-37A	CZL dwg 406439
A-106	2Z8501-5 R42-I-392	MOUNT, vibration: square miniature; 2.8 lb shear and 4.4 lb compression load rating; rubber cushion, 23/64" square x 3/8" lg; 2 steel studs 3/8" lg w/8-32NC2 thd; mts by single #8 scr	Hold rec to aircraft	CBAK A321 or B321	CZL dwg 406446

TABLE 7-2. TABLE OF REPLACEABLE PARTS

MODEL: RADIO RECEIVING SET AN/ARW-26Y MAJOR ASSEMBLY: RADIO RECEIVER-SELECTOR R-196/ARW-26Y

Reference Symbol	Army Stock Number Navy Stock Number	NAME OF PART and DESCRIPTION	FUNCTION	MFR and DESIG. or AWS TYPE	CONTR or GOV'T DWG. or SPEC. No.
A-107		CABINET: radio rec; sheet aluminum, black wrinkle finish; empty; 5-5/8" h x 8-5/16" wd x 6-13/16" d overall; single compartment, w/1 interior bkt; 1 Z-bkt and 1 U-bkt on 2 sides for mtg; p/o Army-Navy Receiver R-196/ARW-26Y; complete w/ gasket R16-BX-406721, and snap-slide fasteners	Houses rec		RDP dwg 15986
A-108		PANEL: p/o Army-Navy Receiver R-196/ ARW-26Y; consists of cover plate, 2 bkts, and 4 pads for bkts; sheet aluminum, black wrinkle finish; rectangular; 7-9/16" lg x 5-5/8" wd x 4-5/8" h overall; 8 mtg holes 0.187" to 0.198" diam on 2.780 centers	Front cover for rec		RDP dwg 15985
A-109		CAP: p/o Army-Navy Receiver R-196/ ARW-26Y; knurled cap, aluminum alloy; 1/2" dia x 3/8" lg; cap 3/8-32 NEF2 thd	Cover for tuning hole		RDP dwg 15994
A-110	-- R16-BX-406463	WASHER, flat: neoprene, cellophane finish; round, 3/8" ID x 9/16 " OD x 1/64" thk	Makes watertight		CZL dwg 406463
A-111	-- R17-BX-406464	GASKET: neoprene, cellophane finish; round, 3/8" dia x 1/16" thk	Makes watertight		CZL dwg 406464
A-112	-- R16-B-15003	BUSHING: brass, nickel plated; male; 3/8-32 NEF2 thd; 15/32" lg x 9/16" shoulder diam, hex head; center hole 1/4" diam	Receives cap A-109		CZL dwg 406461
C-101		CAPACITOR, fixed: ceramic, insulated 5mmf $\pm$ 0.25 mmf; 500 vdcw; (p/o E-101)			

TABLE 7-2. TABLE OF REPLACEABLE PARTS

MODEL: RADIO RECEIVING SET AN/ARW-26Y MAJOR ASSEMBLY: RADIO RECEIVER-SELECTOR R-196/ARW-26Y

Reference Symbol	Army Stock Number Navy Stock Number	NAME OF PART and DESCRIPTION	FUNCTION	MFR and DESIG. or AWS TYPE	CONTR or GOV'T. DWG. or SPEC. No.
C-102		CAPACITOR, fixed: ceramic, non-insulated; 500 mmf ± 10%, 500 vdcw; (p/o E-101)			
C-103		(Same as C-102) (p/o E-101)			
C-104		(Same as C-101) (p/o E-101)			
C-105		(Same as C-101) (p/o E-101)			
C-106		CAPACITOR, fixed: ceramic; non-insulated; 50 mmf ± 10%; 500 vdcw; (p/o E-101)			
C-107		(Same as C-102) (p/o E-101)			
C-108		CAPACITOR, fixed: ceramic; insulated; 105 mmf ± 10%; 500 vdcw; (p/o E-101)			
C-109	3DKA200-8 R16-C-11337-48	CAPACITOR, fixed: paper; 200,000 mmf ± 20%; 200 vdcw; molded composition case; 1-7/16" lg x 3/4" thk; two #20 gage pigtails ea 2" lg; less mtg bkt	1st audio screen bypass	CMR #345	AWS Spec C75/221
C-110	-- R16-C-10430-15	CAPACITOR , fixed: mica; 5100 mmf ± 5%; 500 vdcw	1st audio to 2nd audio coupling	JAN type CM35C-512J	JAN spec JAN-C-5
C-111	3D9100-68 R16-C-9924-59	CAPACITOR, fixed: mica; 100 mmf ± 10%; 500 vdcw	Grid bypass	JAN type CM20A-101K	JAN spec JAN-C-5
C-112	-- R16-C-10240-75	CAPACITOR, fixed: mica; 2000 mmf ± 5%; 500 vdcw	Plate bypass	JAN type CM30C-202J	JAN spec JAN-C-5
C-113	-- R16-C-9924-59	(Same as C-111)	Plate bypass		

TABLE 7-2. TABLE OF REPLACEABLE PARTS

MODEL: RADIO RECEIVING SET AN/ARW-26Y MAJOR ASSEMBLY: RADIO RECEIVER-SELECTOR R-196/ARW-26Y

Reference Symbol	Army Stock Number Navy Stock Number	NAME OF PART and DESCRIPTION	FUNCTION	MFR and DESIG. or AWS TYPE	CONTR or GOV'T DWG. or SPEC. No.
C-114	-- R16-C-11255-26-998	CAPACITOR, fixed: oil impr; 10,000 mmf -10 + 30%; 1600 vdcw; -55 + 85°C; metal case HS; 1-1/16" lg x 7/8" wd x 1/4 " thk; two wire leads one side #20 AWG wire leads 2-1/8" lg	Vibrator buffer	CSF LR-11	
C-122	3DB20-84 R16-C-9678-30	CAPACITOR, fixed: electrolytic; 2 sect; 20-20 mf 250 vdcw; oper temp range -40°C to +85°C; 1-11/16" diam x 3-1/4" h o/a; round metal case HS w/insulating tube; 3 solder lug term on top scr mtd	H-V fil	JAN type CE42C-250M	JAN spec JAN-C-62
C-128	-- R16-C-11337-48	(Same as C-109)	300-cyc relay by-pass		
C-129	-- R16-C-11337-48	(Same as C-109)	650-cyc relay by-pass		
C-130	-- R16-C-11337-48	(Same as C-109)	1390-cyc relay by-pass		
C-131	-- R16-C-11337-48	(Same as C-109)	3000-cyc relay by-pass		
C-132	-- R16-C-11337-48	(Same as C-109)	955-cyc relay by-pass		
C-133		CAPACITOR, fixed: electrolytic; 15 mf 100 vdcw; oper temp range 0°C to +185°C 1-1/2" lg x 1" wd x 1-1/4" h o/a; metal case HS; 2 solder lug term on top; 2 mtg ears, 2-1/4" mtg/c	Time delay for K-105	JAN type CE64C150H	JAN spec JAN-C-62

TABLE 7-2. TABLE OF REPLACEABLE PARTS

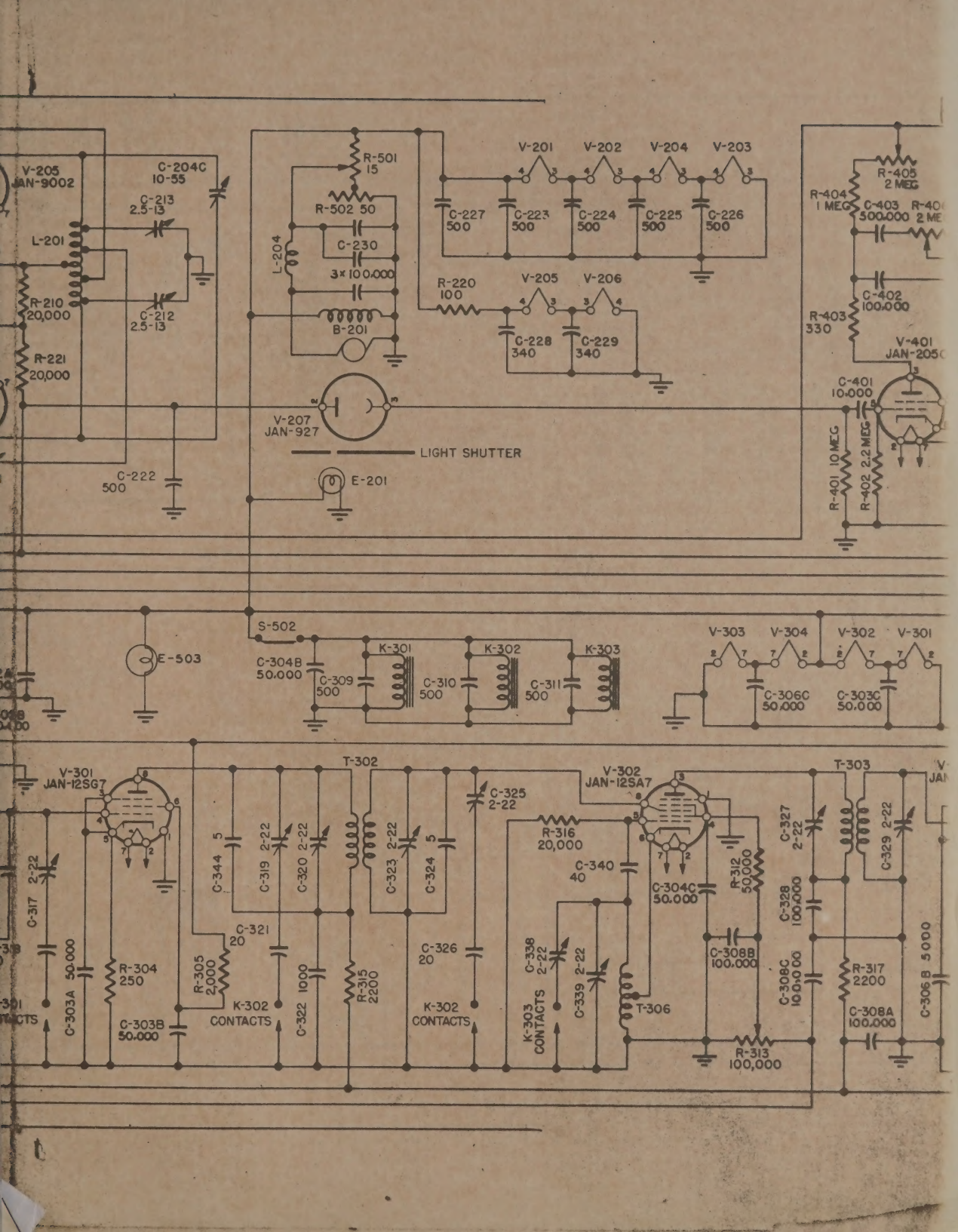
MODEL: RADIO RECEIVING SET AN/ARW-26Y MAJOR ASSEMBLY: RADIO RECEIVER-SELECTOR R-196/ARW-26Y

Reference Symbol	Army Stock Number Navy Stock Number	NAME OF PART and DESCRIPTION	FUNCTION	MFR and DESIG. or AWS TYPE	CONTR or GOV'T. DWG. or SPEC. No.
C-134	-- R16-C-11337-48	(Same as C-109)	Bias by-pass		
C-135	-- R16-C-11255-68-50	CAPACITOR, fixed: oil impr; 20,000 mmf -10 + 30%; 1600 vdcw; metal can HS; 1-1/16" lg x 7/8" wd x 1/4" thk; two wire leads one side #20 AWG 2-1/8" lg	Vibrator buffer	CSF LR-12	
C-136	-- R16-C-10083-35	CAPACITOR, fixed: mica; 1000 mmf ± 5%; 500 vdcw	Monitor phone coupling	JAN type CM30C102J	JAN spec JAN-C-5
C-137	-- R16-C-9924-59	(Same as C-111)	Low voltage r-f bypass		
C-138		CAPACITOR, fixed: paper; oil impr; 0.25 mf ± 20%; 400 vdcw; 1" lg x 3/4" diam; two #20 AWG wire leads 2" lg	Low voltage hash filter bypass	SLM SL-2-25	
C-139		(Same as C-138)	Part of spurious frequency eliminator circuit		
C-140		(Same as C-138)	Low voltage hash filter bypass		
CR-101	-- R16-OAK-6874	VIBRATOR: synchronous; input 28 vdc at 1.7 amp; split reed; reed frequency 95 cps, tolerance 5 cps; 7 round polarized male cont; hermetically sealed w/rubber base; 1-1/2" diam x 3-1/2" lg overall including prongs	Converts dc to ac	COC V-6874	

TABLE 7-2. TABLE OF REPLACEABLE PARTS

MODEL: RADIO RECEIVING SET AN/ARW-26Y MAJOR ASSEMBLY: RADIO RECEIVER-SELECTOR R-196/ARW-26Y

Reference Symbol	Army Stock Number Navy Stock Number	NAME OF PART and DESCRIPTION	FUNCTION	MFR and DESIG. or AWS TYPE	CONTR or GOV'T DWG. or SPEC. No
E-101	2CK8055 R16-AN-TN-109/ARW-26A (TU-55)	TUNING UNIT, RF: Army-Navy type TN-109/ARW-26A; plug-in unit comprising r-f amplifier and detector stages; consists of a rectangular aluminum alloy can 4-3/16" lg x 2-5/8" wd x 2-3/16" thk overall containing 8 fixed capacitors, 5 coils, 1 connector, 3 resistors, 2 adjustable tuning cores, 2 tubes and 2 sockets; 60 to 74 mc; 7 sockets. (Includes Ref. C-101 through C-108, L-101 through L-105, J-101, R-101, R-102, R-103, V-101, V-102, X-101, and X-102.)	Plug in RF amplr and detector stages	Bangor	CZL dwg 452043
E-102	-- R16-S-3934	SHIELD, tube: miniature; used w/7-pin button-base socket	6AK6 tube insul	JAN type SOS6	JAN spec JAN-S-28
E-103		BOARD, terminal: c/o ten brass SAE 72-1/2 H cad pl term, four short thru type 0.105" lg x 1/16" diam; and 6 term 0.105" lg x 1/16" diam; board, phenolic sheet 2-1/8" lg x 2" wd x 1/16" thk	Mtg for resistors and capacitors		CZL dwg 454805-2
E-104	-- R17-S-16565	WIRE BRAID: tinned copper; 2" lg x 3/8" wd; two 5/32" holes on 1-9/16" centers	Gnd connection across rubber vibrator mtg		Sig C dwg SC-D-5853-E, detail 8 CZL dwg #406445
H-101	-- R17-N-1034-5	NUT, hexagon: aluminum alloy; 5/8-24 NEF thd; 1/8" thk; 13/16" wd across flats	Locks J-102 and J-104	AN type AN3066-4	AN dwg AN3066
H-102	-- R17-N-988-23	NUT, hexagon: aluminum; 7/8-20 NEF3 thd; 1/8" thk, 1-1/16" wd across flats	Locks J-105	AN type AN3066-8 reduced to 1/8" thk	AN dwg AN3066 CZL dwg 406441
H-103	-- R17-N-988-33	NUT, hexagon: aluminum alloy; 1-20 NEF3 thd; 1/8" thk; 1-1/4" wd across flats	Locks J-103	AN type AN3066-10 reduced to 1/8" thk	AN dwg AN3066 CZL dwg 406440


V-205 JAN-9002
C-204C 10-55
C-213 2.5-13
L-201
R-210 20,000
C-212 2.5-13
R-221 20,000
C-222 500
R-501 15
R-502 50
C-230 3×100.000
L-204
B-201
V-207 JAN-927
LIGHT SHUTTER
E-201
V-201
V-202
V-204
V-203
C-227 500
C-223 500
C-224 500
C-225 500
C-226 500
R-220 100
V-205
V-206
C-228 340
C-229 340
R-405 2 MEG
R-404 1 MEG
C-403 500.000
C-402 100.000
R-403 330
V-401 JAN-205C
C-401 10.000
R-401 10 MEG
R-402 2.2 MEG
E-503
S-502
C-304B 50.000
C-309 500
K-301
C-310 500
K-302
C-311 500
K-303
V-303
V-304
V-302
V-301
C-306C 50.000
C-303C 50.000
V-301 JAN-12SG7
T-302
C-325 2-22
V-302 JAN-12SA7
T-303
C-317 2-22
C-303A 50.000
R-304 250
C-303B 50.000
C-344 5
C-319 2-22
C-320 2-22
C-323 2-22
C-324 5
R-305 2,000
C-321 20
K-302 CONTACTS
C-322 1000
R-315 2200
C-326 20
K-302 CONTACTS
R-316 20,000
C-340 40
C-338 2-22
C-339 2-22
K-303 CONTACTS
T-306
C-304C 50.000
R-312 50,000
C-308B 100.000
R-313 100,000
C-327 2-22
C-328 100.000
C-308C 100.000
C-329 2-22
R-317 2200
C-308A 100.000
C-306B 5000

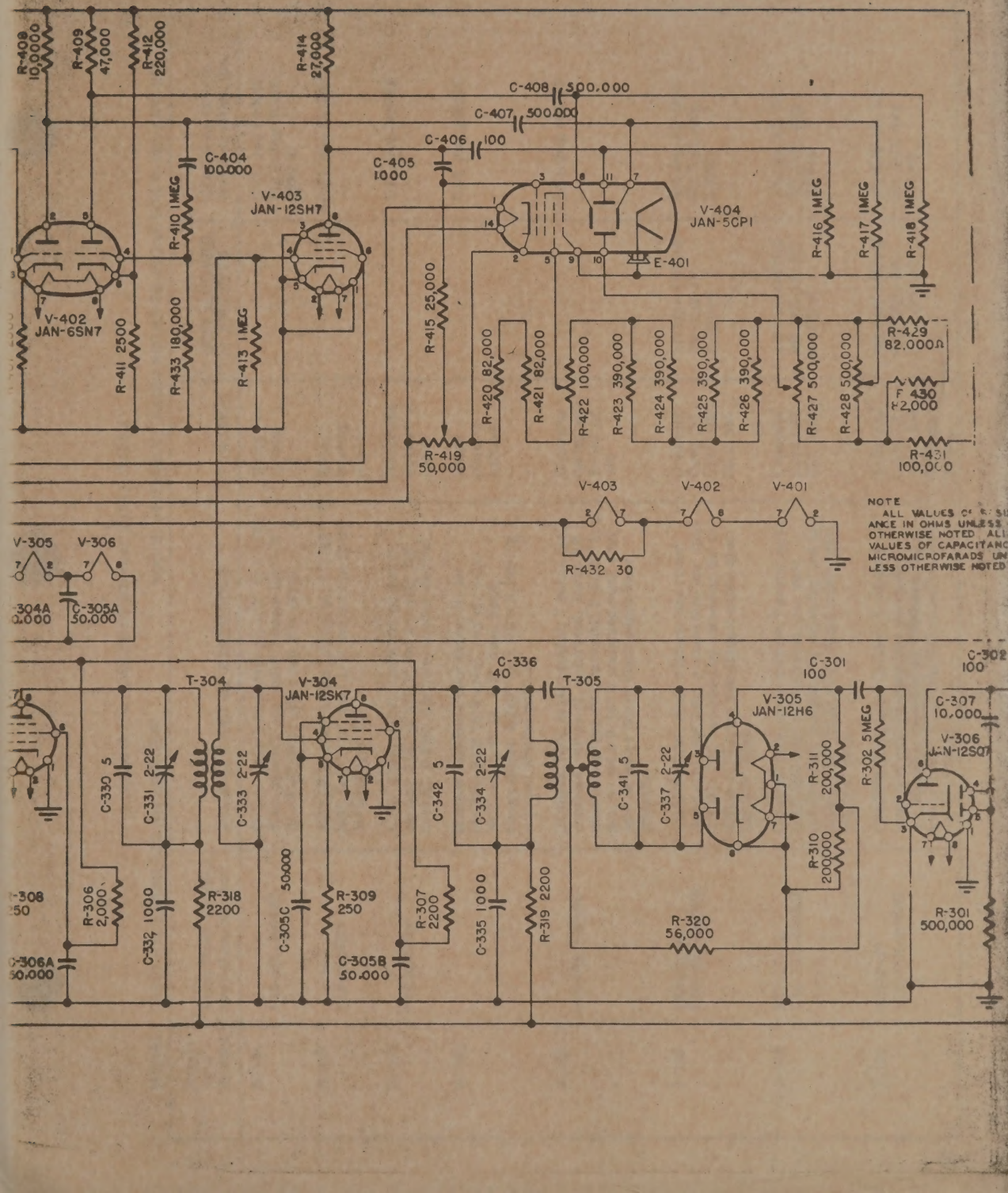

R-408 10,0000
R-409 47,000
R-412 220,000
R-414 27,000
C-408 500,000
C-407 500,000
C-406 100
C-405 1000
C-404 100,000
R-410 1MEG
V-403 JAN-12SH7
V-404 JAN-5CP1
E-401
R-416 1MEG
R-417 1MEG
R-418 1MEG
V-402 JAN-6SN7
R-411 2500
R-433 180,000
R-413 1MEG
R-415 25,000
R-420 82,000
R-421 82,000
R-422 100,000
R-423 390,000
R-424 390,000
R-425 390,000
R-426 390,000
R-427 500,000
R-428 500,000
R-429 82,000Ω
R-430 2,000
R-431 100,000
R-419 50,000
V-403
V-402
V-401
R-432 30
NOTE
ALL VALUES OF R: SI
ANCE IN OHMS UNLESS
OTHERWISE NOTED ALL
VALUES OF CAPACITANC
MICROMICROFARADS UN
LESS OTHERWISE NOTED
V-305
V-306
C-305A 50,000
C-336 40
C-301 100
T-304
V-304 JAN-12SK7
T-305
V-305 JAN-12H6
C-307 10,000
V-306 JAN-12SQ7
C-330 5
C-331 2-22
C-333 2-22
C-342 5
C-334 2-22
C-341 5
C-337 2-22
R-311 200,000
R-302 5MEG
R-310 200,000
R-306 2,000
R-318 2200
C-332 1000
C-305C 50,000
R-309 250
C-305B 50,000
R-307 2200
C-335 1000
R-319 2200
R-320 56,000
R-301 500,000

TABLE 7-2. TABLE OF REPLACEABLE PARTS

MODEL: RADIO RECEIVING SET AN/ARW-26Y MAJOR ASSEMBLY: RADIO RECEIVER-SELECTOR R-196/ARW-26Y

Reference Symbol	Army Stock Number Navy Stock Number	NAME OF PART and DESCRIPTION	FUNCTION	MFR and DESIG. or AWS TYPE	CONTR or GOV'T. DWG. or SPEC. No.
H-104	-- R16-BX-406467	STUD: brass, cadmium pl; 1/2" lg x 3/8" diam overall; one end w/female thd 3/8" lg x 8-32 NC2; other end slot drive	Holds rec to mtg		CZL dwg 406467 Sig C dwg SC-D-5853-E
H-105	-- R16-N-2031	NUT, Hexagon: brass, nickel pl; 3/8-32 NEF thd: 3/32" thk; 1/2" wd across flats; Mallory type 232	Holds bushing A-112		CZL dwg 407082
H-106	-- R16-L-5049	LINK, chain: steel, cadmium pl; pear-shaped; 3/8" lg x 1/2" wd x 0.015" thk overall; 0.380" dia hole, w/slot; not thd	Holds end of bead chain		CZL dwg 406549
H-107		SCREW, machine: slot drive; fil-hd binding; SAE 1010 steel, cad pl; 8-32 NC2 thd; 5/8" lg, 1/2" diam head; flange dimen 0.270" max OD x 0.156" lg o/a incl slotted portion	Holds panel to cabinet		CZL dwg 406637
J-101	-- R16-BX-406428	CONNECTOR, male contact: 7 round male contacts, silver pl, polarized, Jones HB tube prong type #98; straight; 2-5/32" lg x 2-1/4" wd x 9/16" d including cont; cont mtd on wafer board black paper base phenolic	Connects tuning unit E-101 to set		CZL dwg 406428
J-102	2Z3Q21-24 R16-PDI-406969	CONNECTOR, male contact: one round male cont, box mtg; pressurized per spec AN WC-591; modified by extending thd to within 1/32 from mtg flange; cable opening 5/8" diam	Connects Cord CG-312/ARW-26 to ant	AN type AN3102-PR-10S-2P modified	AN dwg AN-WC-591 CZL dwg 406969
J-103	2Z7117-11 R16-PDI-406938	CONNECTOR, male contact: 7 round male cont; box mtg; pressurized, per spec AN WC-591; modified by extending thd to within 1/32" from mtg flange; cable opening 7/8" diam	Connects Cord CX-662/ARW-	AN type AN3102 PR-16S-1P-181 modified	AN dwg AN-WC-591 CZL dwg 406938
J-104	2Z112-27 R16-PDI-406968	CONNECTOR, male contact: 2 round male cont; box mtg; pressurized per spec AN WC-591; modified by extending thd to within 1/32" from mtg flange; cable opening 5/8" diam	Connects Cord CX-664/ARW-26 to parachute	AN type AN3102 PR-10SL-4P 181 modified	AN dwg AN-WC-591 CZL dwg 406968

TABLE 7-2. TABLE OF REPLACEABLE PARTS

MODEL: RADIO RECEIVING SET AN/ARW-26Y MAJOR ASSEMBLY: RADIO RECEIVER-SELECTOR R-196/ARW-26Y

Reference Symbol	Army Stock Number Navy Stock Number	NAME OF PART and DESCRIPTION	FUNCTION	MFR and DESIG. or AWS TYPE	CONTR or GOV'T DWG. or SPEC. No.
J-105	2Z7116-40 R16-PDI-406967	CONNECTOR, male contact: 6 round male cont; box mtg; pressurized per spec AN WC-591; modified by extending thd to within 1/32" from mtg flange; cable opening 3/4" diam	Connects Cord CX-661/ARW-26 to servo	AN type AN3102 PR-14S-6P modified	AN dwg AN-WC-591 CZL dwg 406967
K-101	-- R16-R-5135	(P/o K-106)		CAOX R45-B	
K-102	-- R16-R-5135	(P/o K-106)		CAOX R45-B	
K-103	-- R16-R-5135	(P/o K-106)		COAX R45-B	
K-104	-- R16-R-5135	(P/o K-106)		COAX R45-B	
K-105	-- R16-R-5135	(P/o K-106)		COAX R45-B	
K-106		RELAY ASSEMBLY: p/o Army-Navy Receiver R-196/ARW-26Y; aluminum alloy bkt mtg 5 relays, ea conforming to Navaer Spec M-694 and Sig C spec SC-71-845, Auto Elec type R45-B, coil resistance 10,000 ohms + 10%, operating on 2.5 ma coil current; 6-1/2" lg x 1-15/16" h x 2-19/32" d overall; includes JAN type RC21AF153J fixed resistor, composition, 15000 ohms + 5%, 1/2 watt; (includes Ref K-101 through K-105 and R-116)	Control relays on mtg	COAX R45-B	CZL dwg 466910
L-101		(P/o E-101)			
L-102		(P/o E-101)			
L-103		(P/o E-101)			
L-104		(P/o E-101)			
L-105		(Same as L-104) (P/o E-101)			

TABLE 7-2. TABLE OF REPLACEABLE PARTS

MODEL: RADIO RECEIVING SET AN/ARW-26Y MAJOR ASSEMBLY: RADIO RECEIVER-SELECTOR R-196/ARW-26Y

Reference Symbol	Army Stock Number Navy Stock Number	NAME OF PART and DESCRIPTION	FUNCTION	MFR and DESIG. or AWS TYPE	CONTR or GOV'T. DWG. or SPEC. No.
L-111		(P/o E-101)			
L-112		(P/o E-101)			
L-113	-- R16-C-27562-675	COIL, R-F CHOKE: inductance 7.6 uh; current drain 1 amp at 24 vdc; resistance 0.2 ohm; universal wound, 50 turns #28 double silk covered wire; finish coat Amphenol #912; core 1/4" OD x 13/16" lg; pigtail leads ea end 1-7/16" lg; 7/16" diam x 3-9/16" lg overall including leads	Filters low voltage hash		CZL dwg 454811
R-101		RESISTOR, fixed: composition; 250 ohm ± 10%; 1/2 watt; (p/o E-101)			
R-102		RESISTOR, fixed: composition; 25,000 ohm ± 10%; 1/2 watt; (p/o E-101)			
R-103		(Same as R-102) (p/o E-101)			
R-104	-- R16-R-17303-201	RESISTOR, fixed: composition; 8200 ohms ± 10%; 1/2 watt	Plate voltage dropping in tuning unit	RC20AF822K	JAN spec JAN-R-11
R-105	-- R16-R-17400-305	RESISTOR, fixed: composition; 2.2 meg ± 10%; 1/4 watt	1st audio screen dropping	JAN type RC10 AF-225K	JAN spec JAN-R-11
R-106	-- R16-R-17344-178-510	RESISTOR, fixed: composition 300,000 ohms ± 10%; 1/4 watt	Part of first audio plate load	JAN type RC10 AF-304K	JAN spec JAN-R-11
R-107	-- R16-R-17464	RESISTOR, fixed: composition; 39 meg ± 10%; 1/4 watt	2nd audio grid return	JAN type RC10 AF-395K	JAN spec JAN-R-11
R-108	-- R16-R-17318-105	RESISTOR, fixed: composition; 27,000 ohms ± 10%; 1/4 watt	2nd audio plate load	JAN type RC10 AF-273K	JAN spec JAN-R-11

TABLE 7-2. TABLE OF REPLACEABLE PARTS

MODEL: RADIO RECEIVING SET AN/ARW-26Y MAJOR ASSEMBLY: RADIO RECEIVER-SELECTOR R-196/ARW-26Y

Reference Symbol	Army Stock Number Navy Stock Number	NAME OF PART and DESCRIPTION	FUNCTION	MFR and DESIG. or AWS TYPE	CONTR or GOV'T. DWG. or SPEC. No.
R-109	-- R16-R-17281-135-750	RESISTOR, fixed: composition; 4700 ohms ± 10%; 1/4 watt	HV isolating	JAN type RC10 AF-472K	JAN spec JAN-R-11
R-115	-- R16-R-17371-125	RESISTOR, fixed: composition; 500,000 ohms + 10%; 1/4 watt	Grid return for relay tubes	JAN type RC10 AF-504K	JAN spec JAN-R-11
R-116		RESISTOR, fixed: composition; 15,000 ohms ± 5%; 1/2 watt; (p/o K-106)			
R-117	-- R16-R-6917	RESISTOR, fixed: WW; vitreous enamel; 15 ohms ± 10%; 10 watt; 1-3/4" lg x 5/16" OD; two #18 B & S tinned copper wire leads 1-1/8" lg	Fil dropping	COM type BROLO	
R-118	-- R16-R-17263-60	RESISTOR, fixed: composition; 4700 ohms ± 10%; 1/4 watt	P/o spurious frequency eliminator circuit	RC10AF472K	JAN spec JAN-R-11
R-119		RESISTOR, fixed: composition; 100,000 ohms ± 20%; 1/4 watt	P/o first audio plate load	RC10AF104K	JAN spec JAN-R-11
R-120		RESISTOR, fixed: composition; 750,000 ohms ± 20%; 1/4 watt	Inverse feedback	RC10AF754K	JAN spec JAN-R-11
T-101		TRANSFORMER, power: vibrator; input 24 vdc at 500 ma; output 244 vac CT at 15 ma; 115 cyc output; HS in tin-dipped steel rectangular case; case and base excluding term 1-13/32" lg x 2-7/32" h; six Cincinnati #606 or equal soldering lug term on bottom	Supply high voltage	CPU part #13085	
V-101	-- 16-T-79003	TUBE, electron: midget remote cutoff pentode; uhf (p/o E-101)	R-f amplr in tuning unit E-101	JAN-9003	JAN spec JAN-1A

TABLE 7-2. TABLE OF REPLACEABLE PARTS

MODEL: RADIO RECEIVING SET AN/ARW-26Y MAJOR ASSEMBLY: RADIO RECEIVER-SELECTOR R-196/ARW-26Y

Reference Symbol	Army Stock Number Navy Stock Number	NAME OF PART and DESCRIPTION	FUNCTION	MFR and DESIG. or AWS TYPE	CONTR or GOV'T DWG. or SPEC. No.
V-102	-- 16-T-79002	TUBE, electron: midget remote triode; uhf (p/o E-101)	Detector in tuning unit E-101	JAN-9002	JAN spec JAN-1A
V-103	-- 16-T-56192	TUBE, electron: miniature pentode	1st audio amplr	JAN type JAN-6AK6	JAN spec JAN-1A
V-104	-- 16-T-56192	(Same as V-103)	2nd audio amplr		
V-105	-- 16-T-56192	(Same as V-103)	300 cyc relay control		
V-106	-- 16-T-56192	(Same as V-103)	650 cyc relay control		
V-107	-- 16-T-56192	(Same as V-103)	1390 cyc relay control		
V-108	-- 16-T-56192	(Same as V-103)	3000 cyc relay control		
V-109	-- 16-T-56192	(Same as V-103)	955 cyc relay control		
X-101		(P/o E-101)			
X-102		(Same as X-101) (P/o E-101)			
X-103	2Z8677.95 R16-S-6184-20	SOCKET, tube: miniature socket, 7 beryllium copper silver pl cont; steel shell w/ceramic body; 1-9/32" lg x 0.805" dia overall; (two 1/8" dia mtg holes on 7/8" mtg/c; p/o Army-Navy Receiving Set AN/CRW-7); Delco part/ dwg 7253819	Socket for V-103	JAN type S010C	JAN spec JAN-S-28

TABLE 7-2. TABLE OF REPLACEABLE PARTS

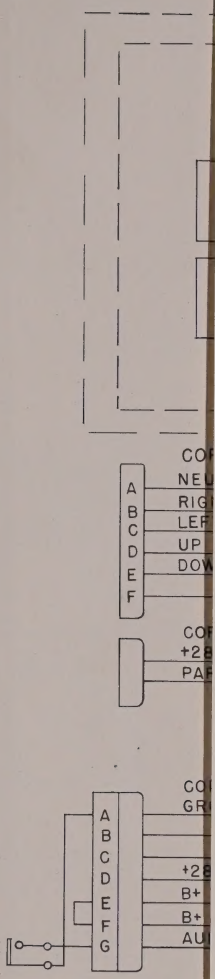
MODEL: RADIO RECEIVING SET AN/ARW-26Y MAJOR ASSEMBLY: RADIO RECEIVER-SELECTOR R-196/ARW-26Y

Reference Symbol	Army Stock Number Navy Stock Number	NAME OF PART and DESCRIPTION	FUNCTION	MFR and DESIG. or AWS TYPE	CONTR or GOV'T DWG. or SPEC. No.
X-104	2Z8677.95 R16-S-6184-20	(Same as X-103)	Socket for V-104		
X-105	2Z8677.95 R16-S-6184-20	(Same as X-103)	Socket for V-105		
X-106	2Z8677.95 R16-S-6184-20	(Same as X-103)	Socket for V-106		
X-107	2Z8677.95 R16-S-6184-20	(Same as X-103)	Socket for V-107		
X-108	2Z8677.95 R16-S-6184-20	(Same as X-103)	Socket for V-108		
X-109	2Z8677.95 R16-S-6184-20	(Same as X-103)	Socket for V-109		
Y-101		CRYSTAL, rectifying: Army-Navy type 1N34; 1/4" diam x 1" lg; two #20 AWG wire leads 1" lg	P/o spurious frequency eliminator circuit	JAN-1N34	
Z-101		SUB-ASSEMBLY: audio filter; HS assem of audio reactor, capacitor, and resistor; rectangular can w mtg bkt; two 3/16" diam holes on 5/8" mtg/c; 1-3/4" wd x 7/8" thk x 1-1/4" h overall excluding wire leads; figures 1, 2, 3 and Z101 stamped on can; (includes Ref C-123, L-106, and R-110)	Selects 300 cyc tone	Babcock Radio Eng. Inc. 127-A-9	RDP dwg 15750
Z-102		SUB-ASSEMBLY: audio filter; HS assem of audio reactor, capacitor, and resistor; rectangular can w mtg bkt; two 3/16" diam holes on 5/8" mtg/c; 1-3/4" wd x 7/8" thk x 1-1/4" h overall excluding wire leads, figures 1, 2, 3 and Z102 stamped on can; (includes Ref C-124, L-107, and R-111)	Selects 650 cyc tone	Babcock Radio Eng. Inc. 127-A-9	RDP dwg 15751

TABLE 7-2. TABLE OF REPLACEABLE PARTS

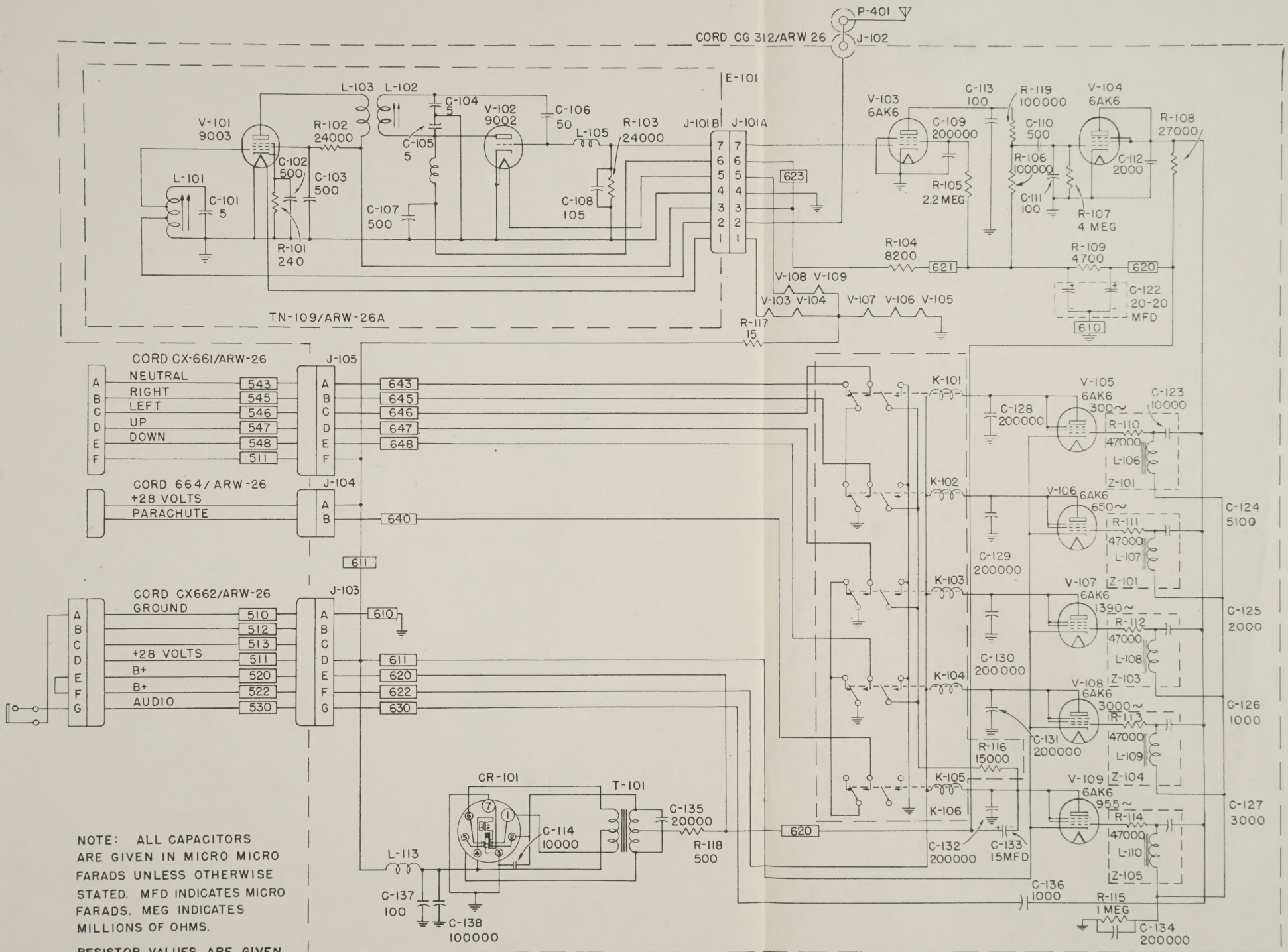
MODEL: RADIO RECEIVING SET AN/ARW-26Y MAJOR ASSEMBLY: RADIO RECEIVER-SELECTOR R-196/ARW-26Y

Reference Symbol	Army Stock Number Navy Stock Number	NAME OF PART and DESCRIPTION	FUNCTION	MFR and DESIG. or AWS TYPE	CONTR or GOV'T DWG. or SPEC. No.
Z-103		SUB-ASSEMBLY: audio filter; HS assem of audio reactor, capacitor, and resistor; rectangular can w/2 mtg bkt; two 3/16" dia holes on 5/8" mtg/c; 1-3/4" wd x 7/8" thk x 1-1/4" h overall excluding wire leads; figures 1, 2, 3 and Z103 stamped on can; (includes Ref C-125, L-108 and R-112)	Selects 1390 cyc tone	Babcock Radio Eng. Inc. dwg 127-A-9	RDP dwg 15753
Z-104		SUB-ASSEMBLY: audio filter; HS assem of audio reactor, capacitor, and resistor; rectangular can w/2 mtg bkt; two 3/16" dia holes on 5/8" mtg/c; 1-3/4" wd x 7/8" thk x 1-1/4" h overall excluding wire leads; figures 1, 2, 3 and Z104 stamped on can; (includes C-126, L-109, and R-113)	Selects 3000 cyc tone	Babcock Radio Eng. Inc. dwg 127-A-9	RDP dwg 15754
Z-105		SUB-ASSEMBLY: audio filter; HS assem of audio reactor, capacitor, and resistor; rectangular can w/2 mtg bkt; two 3/16" dia holes on 5/8" mtg/c; 1-3/4" wd x 7/8" thk x 1-3/4" h overall excluding wire leads; figures 1, 2, 3 and Z105 stamped on can; (includes Ref C-127, L-110, and R-114)	Selects 955 cyc tone	Babcock Radio Eng. Inc. dwg 127-A-9	RDP dwg 15752



NOTE: AL
ARE GIVEN
FARADS UN
STATED. M
FARADS. M
MILLIONS

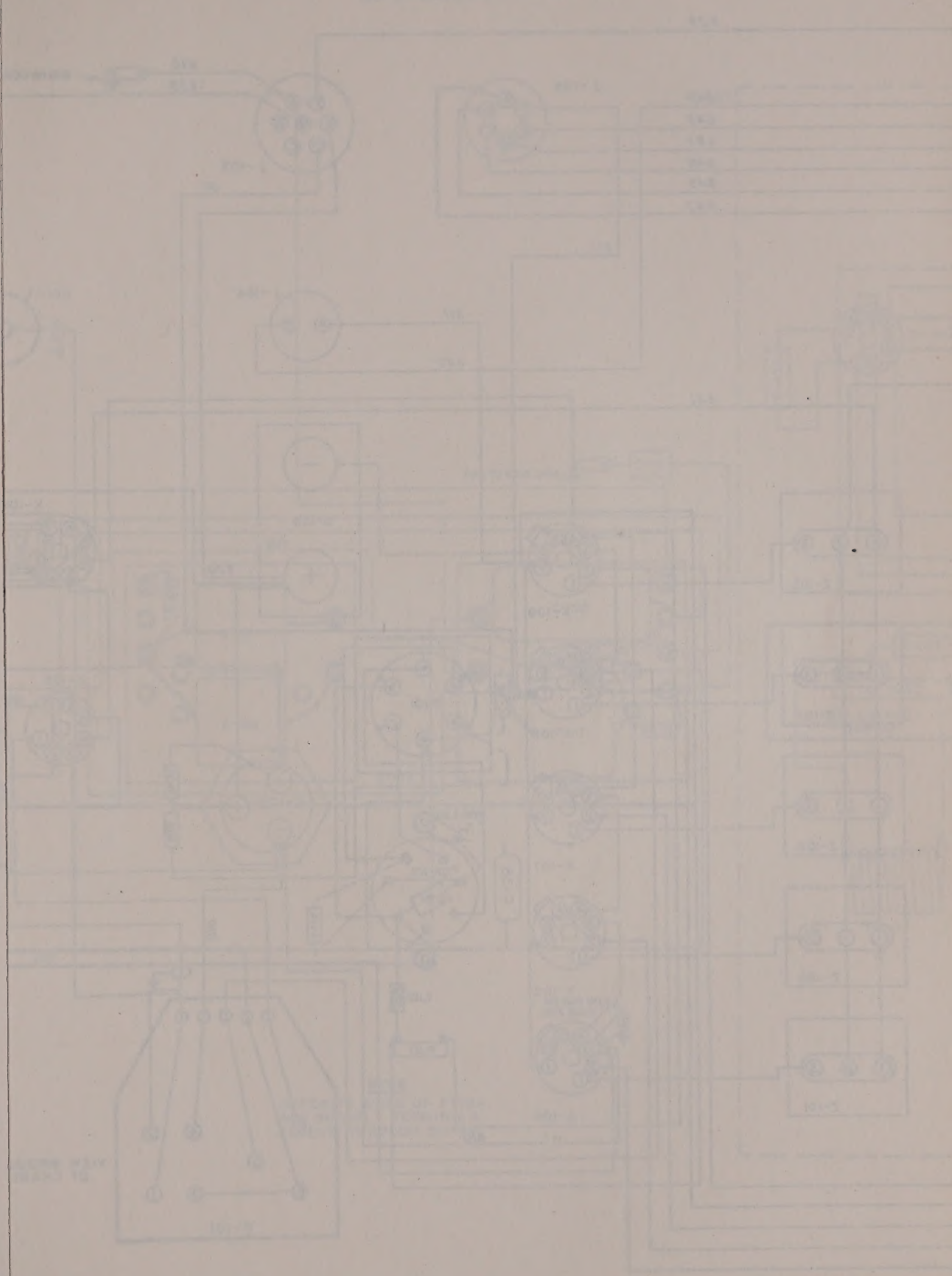
RESISTOR
IN OHMS
NOTED.



NOTE: ALL CAPACITORS ARE GIVEN IN MICRO MICRO FARADS UNLESS OTHERWISE STATED. MFD INDICATES MICRO FARADS. MEG INDICATES MILLIONS OF OHMS.

RESISTOR VALUES ARE GIVEN IN OHMS UNLESS OTHERWISE NOTED.

Figure 8-1. Radio Receiving Set AN/ARW-26(XA-2)Y, Master Schematic Diagram



AN 16-30ARW26-7
AN 16-30ARW26-7
AN 16-30ARW26-7

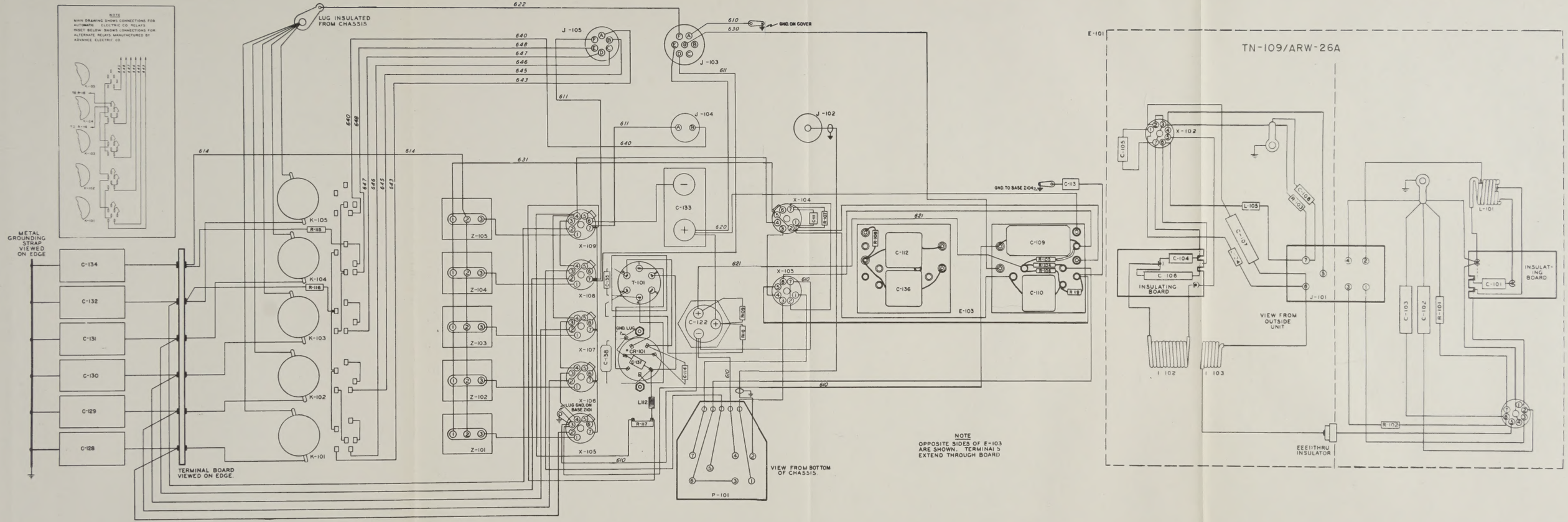


Figure 8-2. Receiver R-196(XA-A)/ARW-26Y, Practical Wiring Diagram

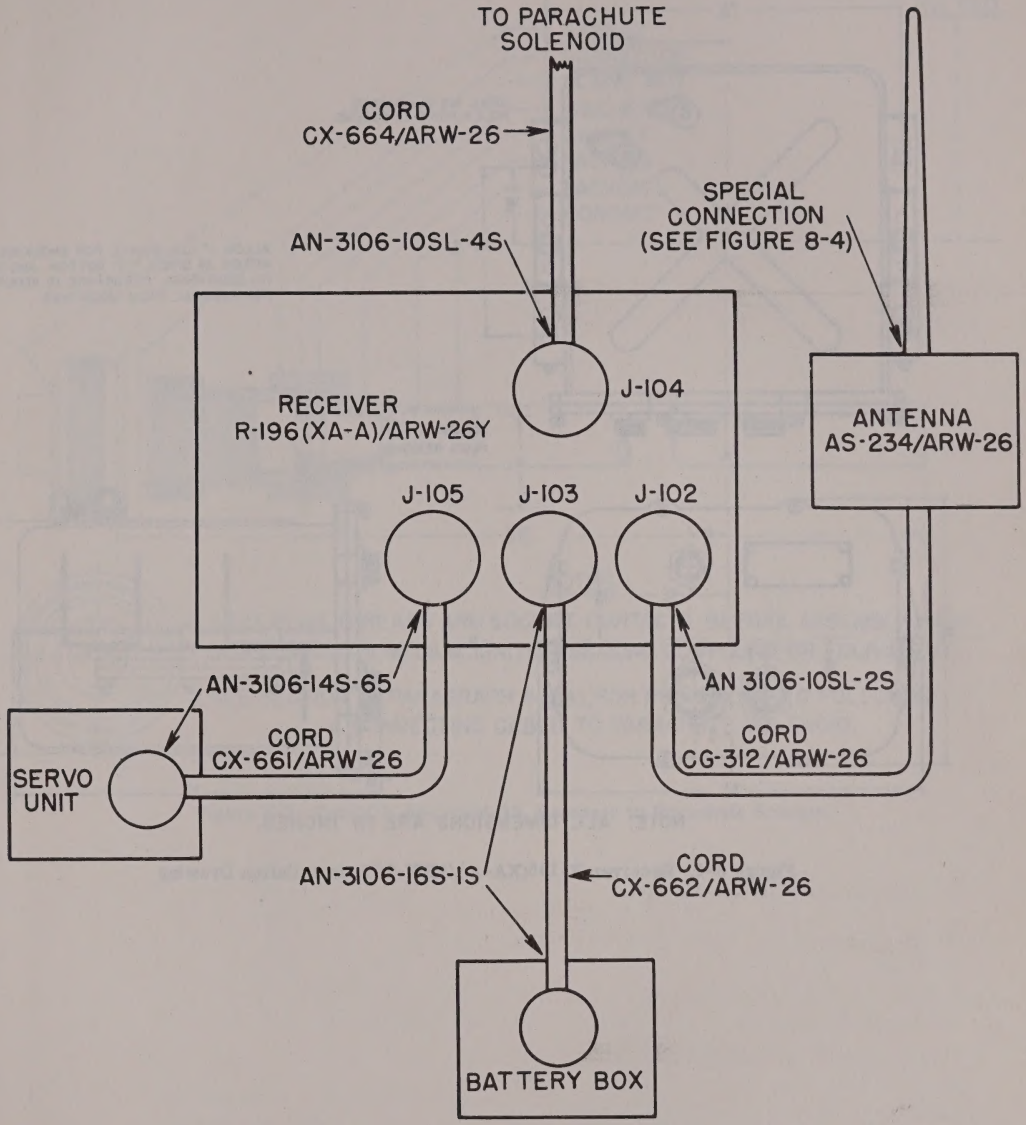


Figure 8-3. Radio Receiving Set AN/ARW-26(XA-2)Y, Cording Diagram

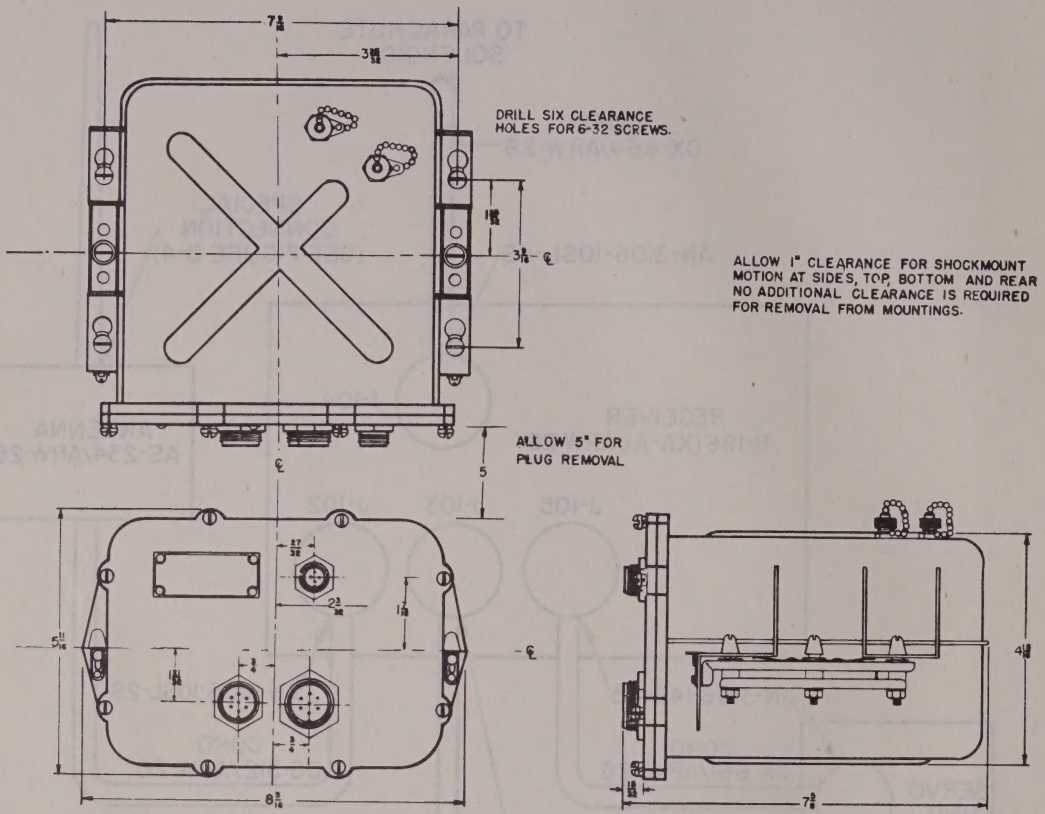

DRILL SIX CLEARANCE HOLES FOR 6-32 SCREWS.
ALLOW 1" CLEARANCE FOR SHOCKMOUNT MOTION AT SIDES, TOP, BOTTOM AND REAR NO ADDITIONAL CLEARANCE IS REQUIRED FOR REMOVAL FROM MOUNTINGS.
ALLOW 5" FOR PLUG REMOVAL
NOTE: ALL DIMENSIONS ARE IN INCHES.

Figure 8-4. Receiver R-196(XA-A)/ARW-26Y, Installation Drawing

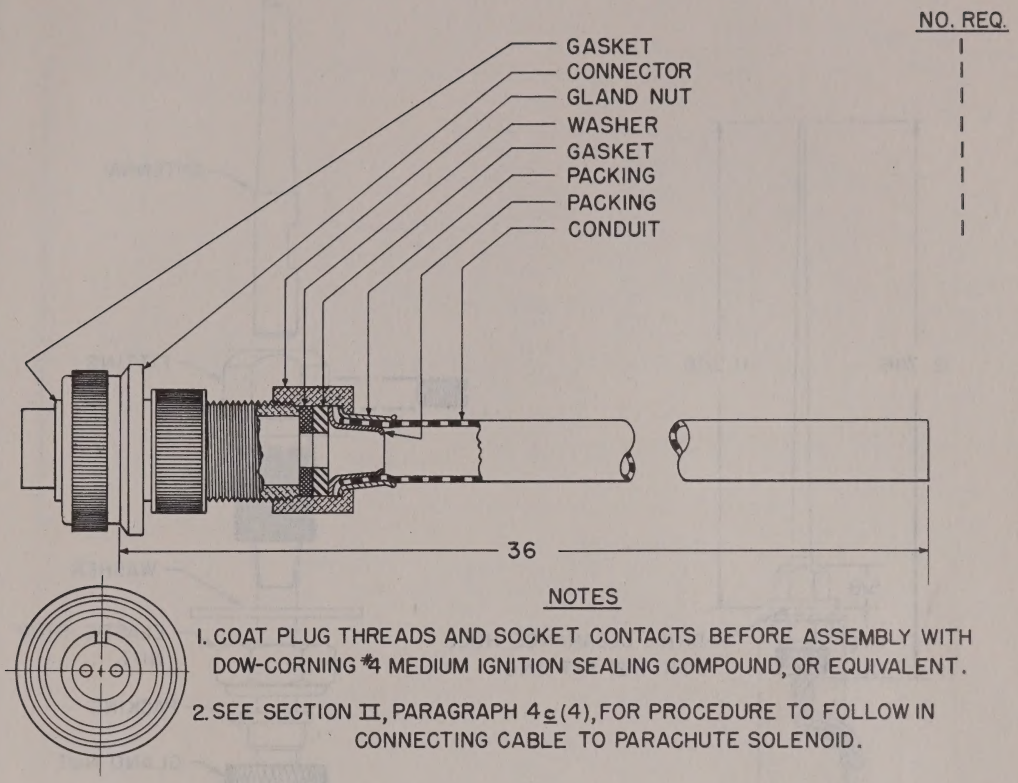
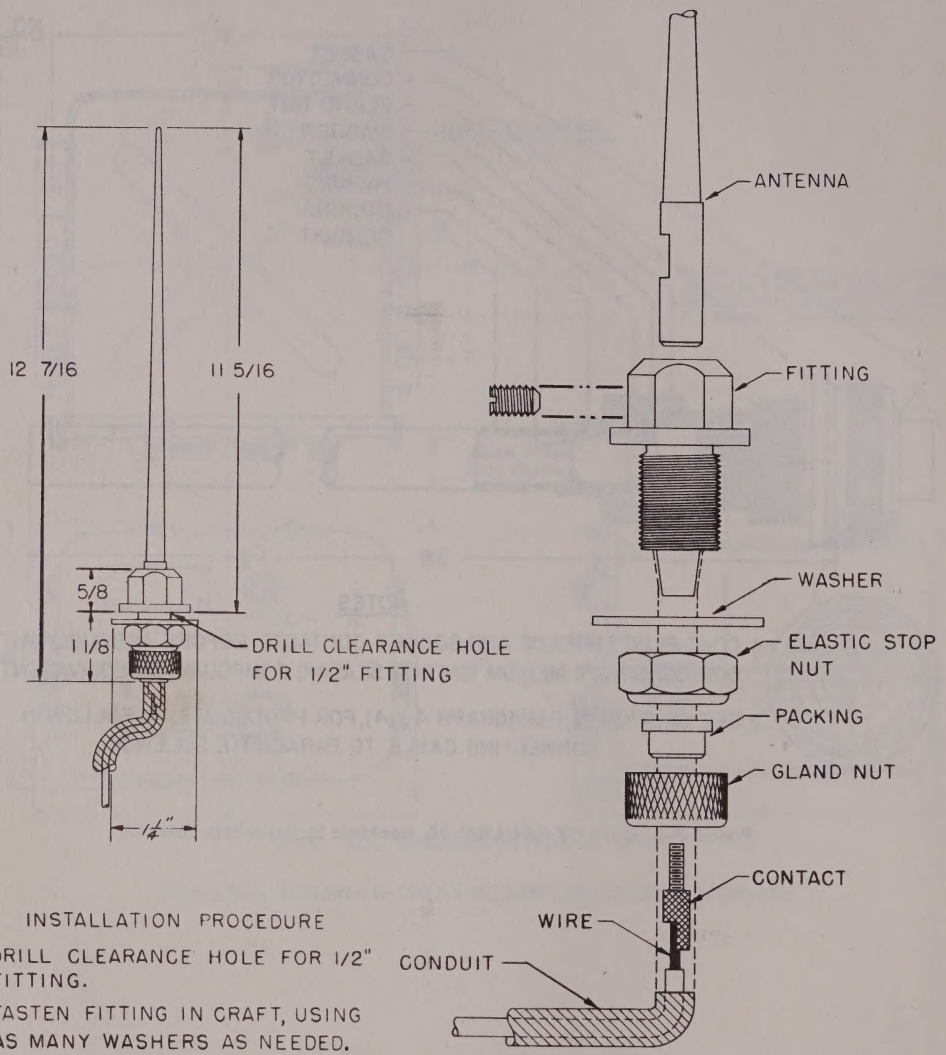

NO. REQ.
GASKET 1
CONNECTOR 1
GLAND NUT 1
WASHER 1
GASKET 1
PACKING 1
PACKING 1
CONDUIT 1
36
NOTES
1. COAT PLUG THREADS AND SOCKET CONTACTS BEFORE ASSEMBLY WITH DOW-CORNING #4 MEDIUM IGNITION SEALING COMPOUND, OR EQUIVALENT.
2. SEE SECTION II, PARAGRAPH 4c(4), FOR PROCEDURE TO FOLLOW IN CONNECTING CABLE TO PARACHUTE SOLENOID.

Figure 8-5. Cord CX-664/ARW-26, Receiver to Parachute Solenoid

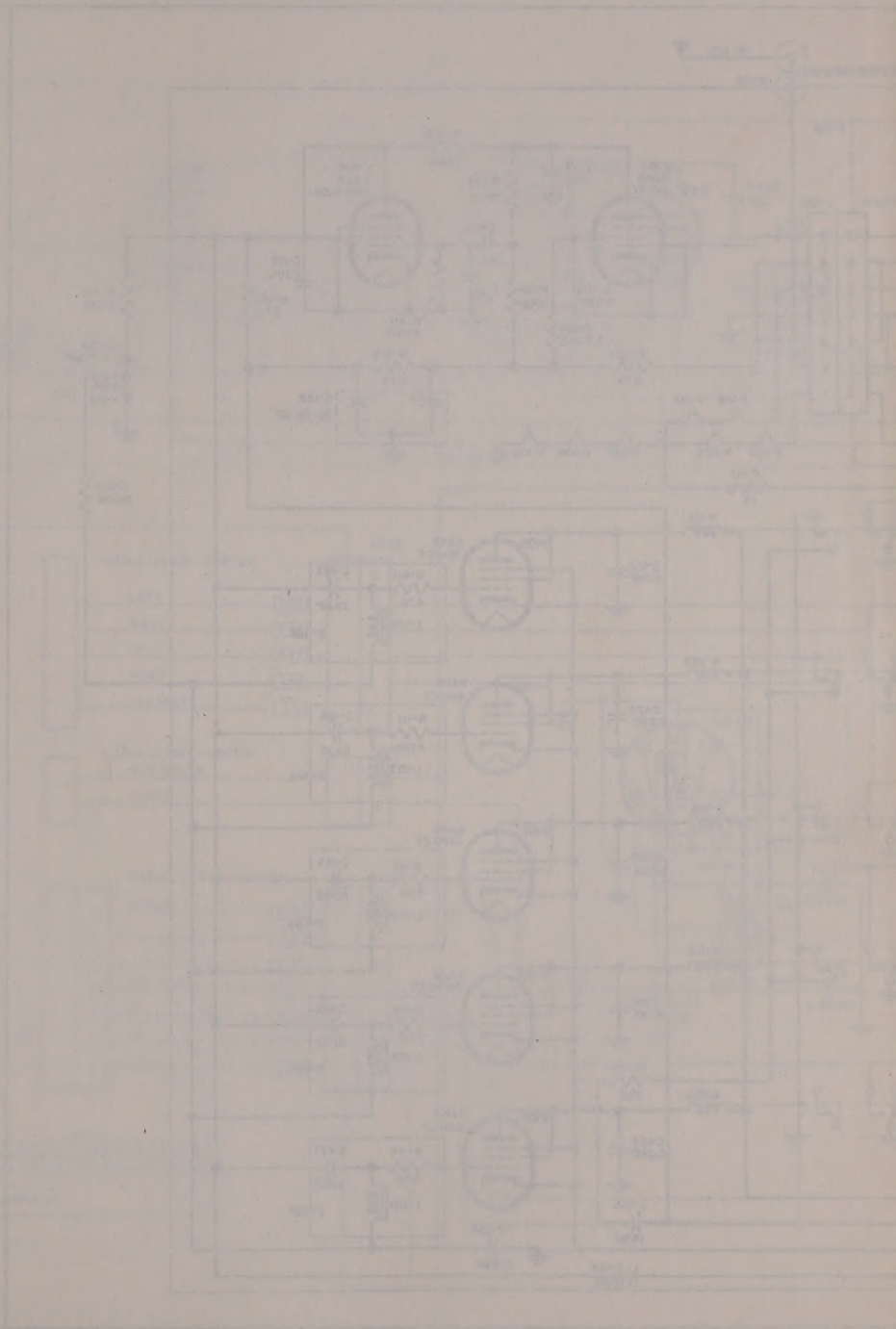


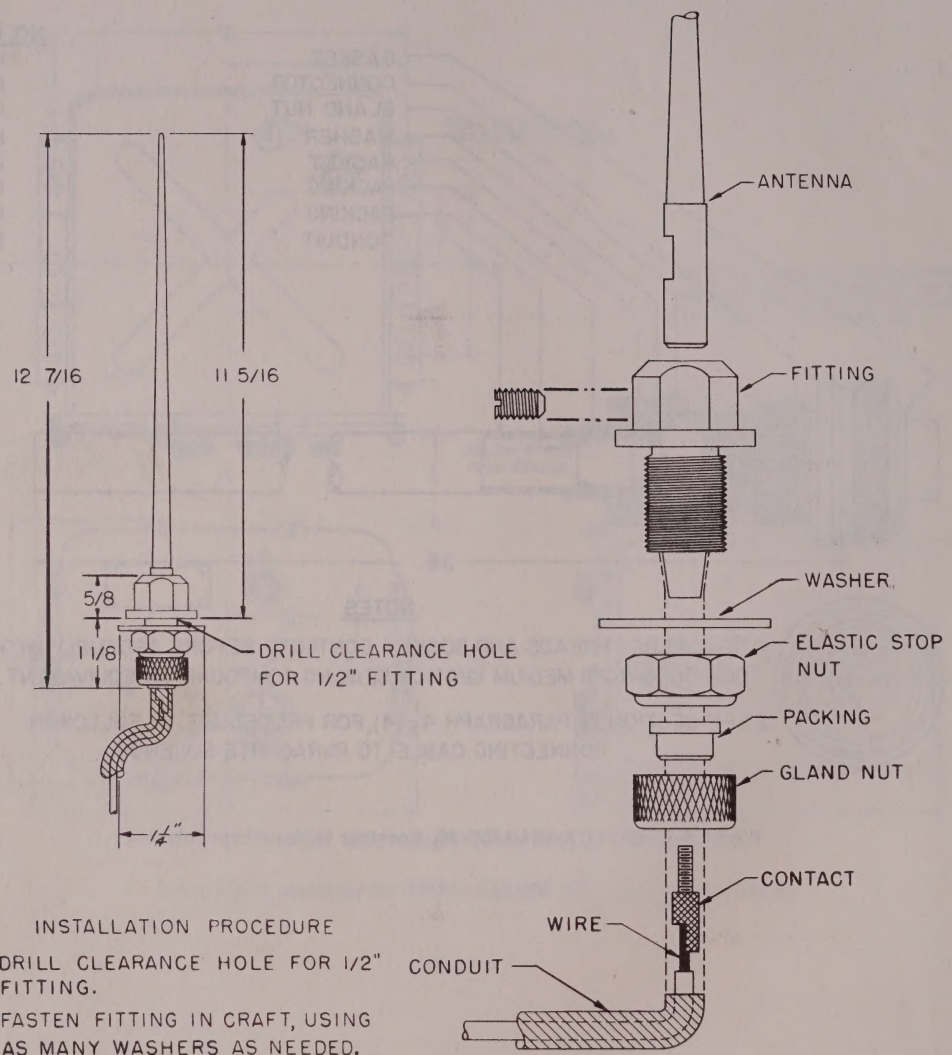
INSTALLATION PROCEDURE

1. DRILL CLEARANCE HOLE FOR 1/2" FITTING.
2. FASTEN FITTING IN CRAFT, USING AS MANY WASHERS AS NEEDED.
3. PUSH GLAND NUT AND PACKING OVER CONDUIT.
4. MAKE CERTAIN THAT OTHER END OF CABLE IS FREE SO THAT WIRE WILL NOT BE TWISTED.
5. SCREW CONNECTOR INTO FITTING.
6. PUSH PACKING UP AS FAR AS POSSIBLE.
7. SLIDE GLAND NUT UP AND SCREW TIGHTLY OVER FITTING.

NOTE: ALL DIMENSIONS ARE IN INCHES.

Figure 8-6. Antenna AS-234/ARW-26Y, Installation Drawing





INSTALLATION PROCEDURE

1. DRILL CLEARANCE HOLE FOR 1/2" FITTING.
2. FASTEN FITTING IN CRAFT, USING AS MANY WASHERS AS NEEDED.
3. PUSH GLAND NUT AND PACKING OVER CONDUIT.
4. MAKE CERTAIN THAT OTHER END OF CABLE IS FREE SO THAT WIRE WILL NOT BE TWISTED.
5. SCREW CONNECTOR INTO FITTING.
6. PUSH PACKING UP AS FAR AS POSSIBLE.
7. SLIDE GLAND NUT UP AND SCREW TIGHTLY OVER FITTING.

NOTE: ALL DIMENSIONS ARE IN INCHES.

Figure 8-6. Antenna AS-234/ARW-26Y, Installation Drawing

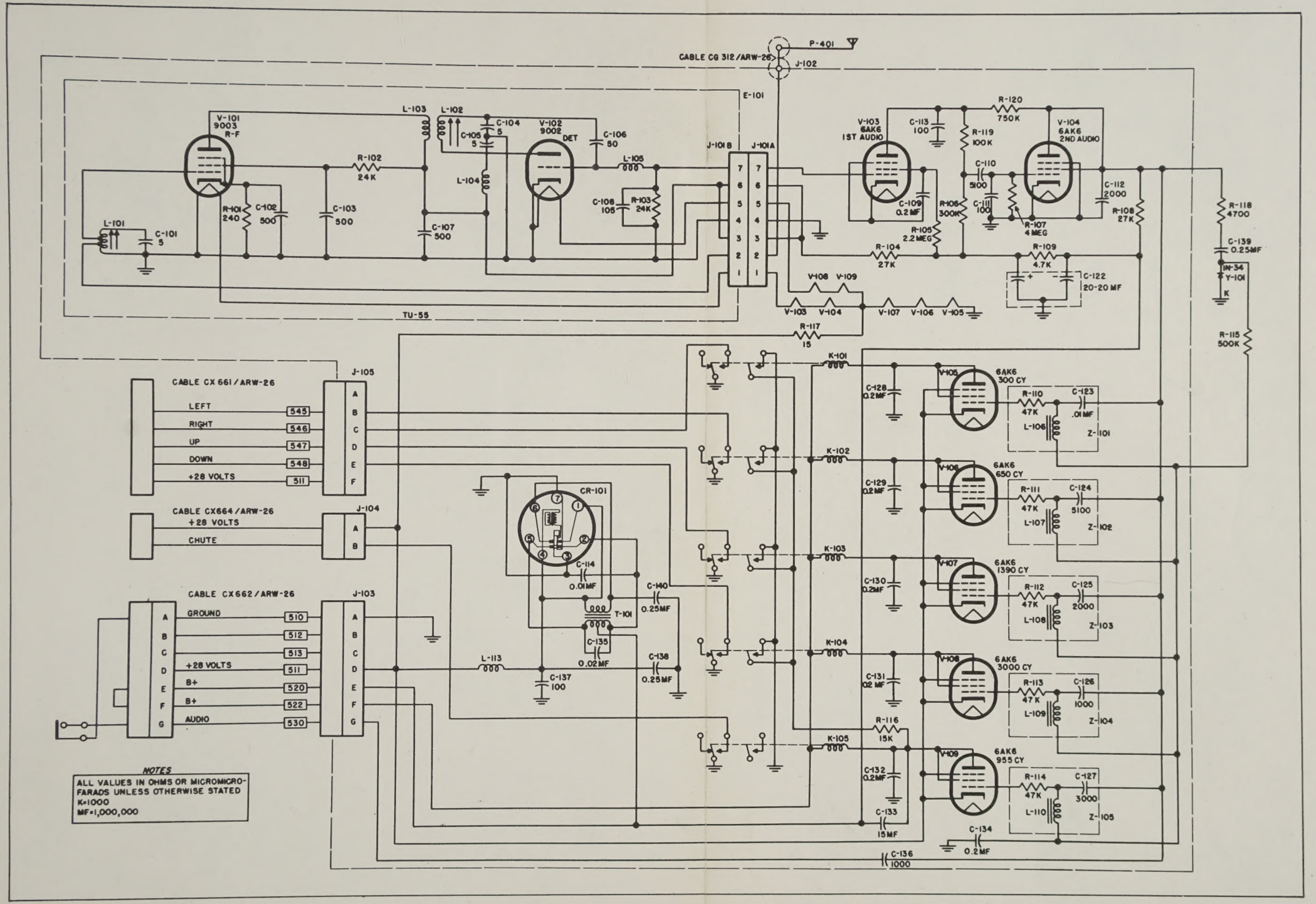
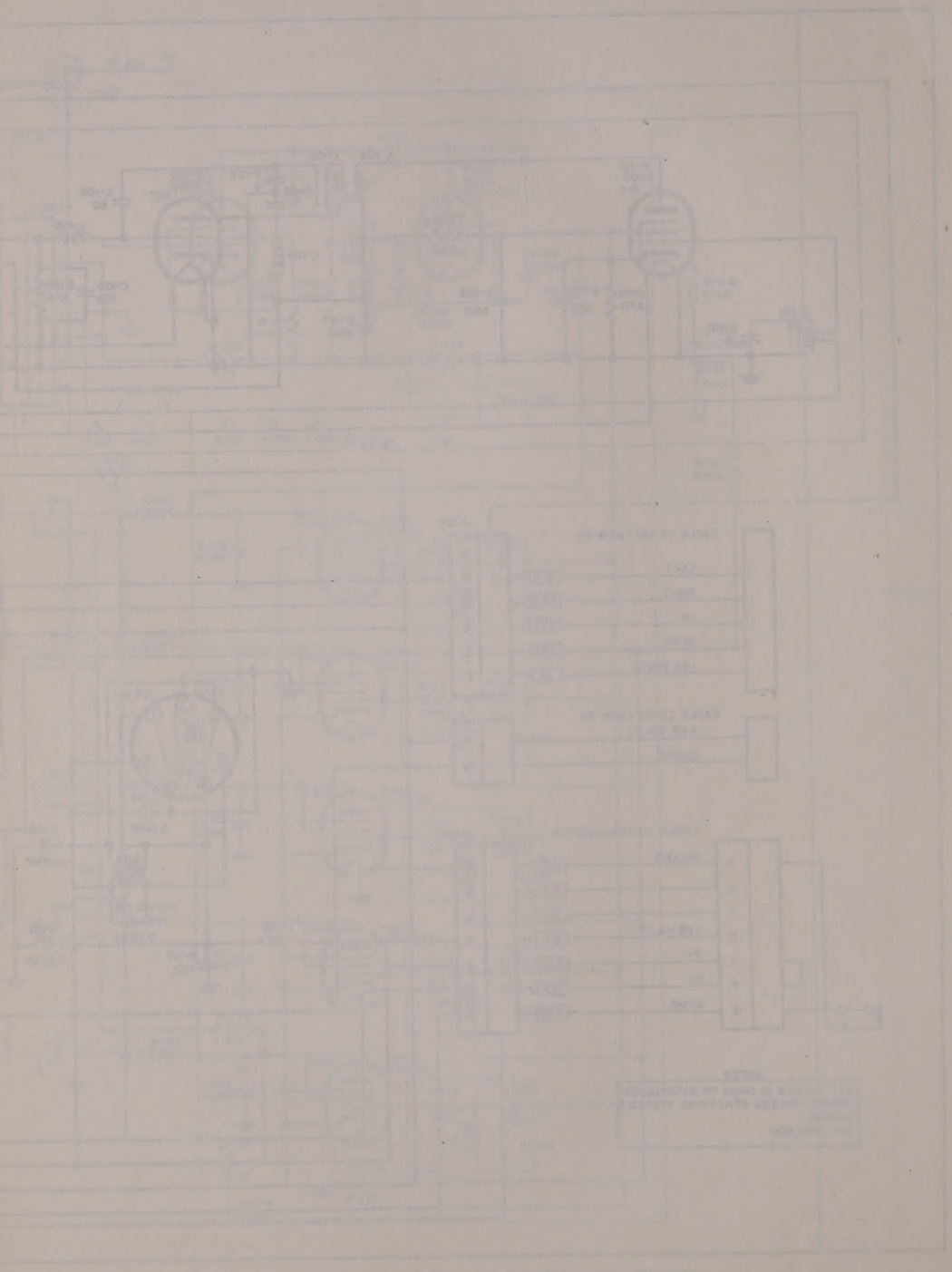


Figure 8-7. Radio Receiving Set AN/ARW-26Y, Master Schematic Diagram



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